

RELIGIOUS AFFILIATION AND GENDER:
DIFFERENCES IN THE ASSOCIATION BETWEEN RELIGIOUSNESS AND
PSYCHOLOGICAL DISTRESS

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ABSTRACT

RELIGIOUS AFFILIATION AND GENDER: DIFFERENCES IN THE ASSOCIATION BETWEEN RELIGIOUSNESS AND PSYCHOLOGICAL DISTRESS

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This study explored how the relationship between religiousness and psychological distress varies by religious affiliation (Christian or Jewish) and by gender. Analyses were conducted on data collected during interviews with 143 community dwelling older adults employing measures with acceptable psychometric properties. Independent variables included organizational and intrinsic religiosity. Resources including physical health, social support, and personal efficacy were included as control variables. The dependent variables were symptoms of depression and anxiety. Supplemental analysis examined clinically significant depression and anxiety.

Results of bivariate correlational analyses revealed significant relationships among gender, education, physical health, social support, personal efficacy, depression, and anxiety. Hierarchical regression analyses were then conducted in which the independent and control variables were entered in three steps: (1) demographics (gender, religious affiliation, education), (2) resources (physical health, social support, personal efficacy), and (3) religiosity and interaction terms.

Christians were found to be more intrinsically religious than Jews but not more organizationally religious. Jews displayed a higher risk for clinical anxiety than Christians and women displayed a higher rate of depression and anxiety symptoms and higher risk for clinical depression and anxiety than did men. Contrary to predictions, higher levels of organizational religiosity were associated with a higher rate of anxiety symptoms. Religious affiliation and

religiousness interacted in association with depression. Higher organizational religiosity was associated with depressive symptoms and clinical depression to a greater extent for Jews than for Christians. In addition, gender and religiousness interacted in association with anxiety. Lower organizational religiosity was associated with anxiety symptoms to greater extent for women than for men. On the whole, Christians displayed less depression and anxiety at higher levels of religiousness than did Jews, underscoring the complex relationships among religion, religiousness, and mental health in late life. This study also provides evidence that women in late life without religious resources may be more vulnerable to mental illness than their male counterparts. However, no reliable relationship has of yet been established among gender, religiousness, and mental health in later life.

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J.C.M.

Chapter I

INTRODUCTION

This study explores the relationship between religiousness and psychological distress among older adults (adults aged 65 years and older) and how this relationship varies by religious affiliation (Christian or Jewish) and gender. Religiosity refers to a type of religiousness which is often seen as including several distinct facets (e.g., organizational, intrinsic, subjective). On the other hand, religiousness refers to the individual's degree of religious devotion. Throughout this dissertation therefore, religiosity is used to denote a construct of religiousness that is multifaceted in nature, while religiousness is used to refer to the level of commitment to one's religion. Finally, religious affiliation refers to one's identification as a member of a particular religious tradition, such as Christianity or Judaism.

This study focuses on a rapidly growing group of Americans in need of mental health support: older adults. Research has shown that older adults tend to be highly religious (Dillon & Wink, 2007), and that religion often serves as a powerful coping resource for older adults to deal with late life challenges such as the loss of physical vitality and the death of family members, spouses, and friends (Harrison, Koenig, Hays, Eme-Akwari, & Pargament, 2001). Few studies, however, have explored how differences in religious affiliation and gender influence the association between religiousness and mental health in late life. This study seeks to fill this gap and further our understanding of the interplay among religiousness, religion, mental health, and gender among older adults.

Religiousness has repeatedly been shown to have a positive association with mental health; people higher in religiousness report lower levels of psychological distress and greater life-satisfaction (Moreira-Almedia, Neto, & Koenig, 2006). However, prior studies establishing

the positive link between religiousness and mental health have used primarily Christian samples (Koenig, McCullough, & Larson, 2001). The limited work that has been done suggests that different dimensions of religiousness are associated with improved well-being for Christians and Jews. Cohen (2002) found that increased public religious practices, such as attendance at services, were associated with greater life satisfaction among Jews, Catholics, and Protestants. However, religious coping (reliance on God in dealing with life problems) and religious belief (belief in God and the afterlife) were associated with increased happiness and quality of life for Catholics and Protestants, but not for Jews. Likewise, spirituality (sense of inner peace, closeness to God and creation) was strongly associated with increased happiness and quality of life for Christians, but less so for Jews. This finding may reflect fundamental religious differences, including the emphasis in Christianity on a personal relationship with God and belief, in contrast to Judaism's emphasis on religious practices and custom. This study explores these differences using two dimensions of religiosity (organizational and intrinsic) and their differential association with depression and anxiety for Christians and Jews.

A second area of inquiry in this paper focuses on possible variations in the relationship between religiosity and mental health by gender. Throughout the lifespan, women have been found to be more religious than men (Francis, 1997). However, women higher in religiousness do not necessarily display better mental health than men (Krause, Ellison, & Marcum, 2002). In fact, recent research has indicated that higher religiousness is associated with lower depression for older men but not older women (McFarland, 2009). It has been suggested that higher levels of religious activity among older women may exact a cost on their health because maintaining social relationships with members of religious congregations requires significant effort and energy. On the other hand, newly retired older men may be better able to exploit the opportunity

to hold offices or other leadership positions in their churches or synagogues. This study explores these differences using two dimensions of religiosity (organizational and intrinsic) and their differential association with depression and anxiety among older men and women.

This study may have implications for clinicians working with Christian and Jewish older adults of both sexes. More specifically, while religious behavior may on the whole be associated with improved mental health, this study may elucidate the specific dimensions of religiosity that are associated with the lower symptomatology for these two religious groups and for women as compared to men. This knowledge may assist older adults in finding healthier ways of approaching and using their religion.

Chapter II

LITERATURE REVIEW

The number of older adults in the United States is growing. Projections suggest that the number of adults over 65 will swell from 12.6% of the United States population today to 18.5% by the year 2025. It is estimated that by 2050, older adults will comprise over 20% of the population (U.S. Bureau of the Census, 2000). Because older adults constitute a rapidly growing segment of the population, understanding the unique psychological challenges of late life is vital to promoting the health and mental health of a large number of people.

Aging has been tied to loss of control (Mirowsky, 1995) and a decline in mental health. For instance, aging is associated with increased levels of depression and anxiety (Cole & Dendukuri, 2003; Flint, 1994; Mirowsky & Reynolds, 2000). It is estimated that between 8 and 20% of community dwelling older adults and between 17 and 35% of primary care patients suffer from depression (Gurland, Cross, & Katz, 1996). On the whole, 12-30% of community dwelling older adults met criteria for a psychiatric disorder within the last year (Kessler, Demler, Frank, Olfson, Pincus, Walters, et al., 2005).

Religiousness among Older Adults

In addition to understanding the mental health challenges of older adulthood, exploring the factors which promote psychological well-being is also important. One factor closely associated with mental health in late life is religiousness.

Eighty-eight percent of adults over 65 report that they believe in God while another 8% believe in a Higher Power (Gallup Poll, 2008). Religious adherence and participation become increasingly important as people age (Dillon & Wink, 2007; Koenig, Smiley, & Gonzalez, 1988; Levin, Taylor, & Chatters, 1995). The Pew Survey (2008) indicated that 50% of all Protestants

and Jews are over 50 years old, revealing that these groups are older on average than the rest of the population (Only 41% of the national total is over 50). In a 2010 Pew Survey, 57% of older adults born before 1928 reported that they had a strong religious affiliation. Among those born between 1928 and 1945 this number dipped to 50%, and finally to 43% of those born between 1946 and 1964.

In addition to being highly religiously affiliated, older adults frequently attend religious services. 53% of adults 65 and over attend religious services regularly. Likewise, older adults display frequent religious activity outside of formal religious services. For instance, 68% of adults 65 and over pray on a daily basis (Pew Survey, 2010).

How are we to understand the salience of religion in older adulthood? Religion may fill an existential gap and may provide a framework for understanding the world, human suffering, and death. Although Freud (1959) described God as a projection of humans' fears and wishes, he also acknowledged that religious people were protected against many forms of neurosis. While other systems of understanding (e.g., political ideologies or rationalism) may provide an increased sense of control and mastery, it has been argued that these belief systems have not satisfied the human need for comfort and meaning (Baumeister, 1991).

Older adults are presented with specific life challenges which may account for the increased salience of religion in late life. Erikson (1959) suggested that the primary task of older adulthood is the development of a meaningful life narrative. Older adulthood is viewed as a time of reflection and consolidation which ideally culminates in a sense of purpose. Erikson believed that religion provides a valuable framework for understanding one's life and resolving inconsistencies or regrets.

Older adults must also confront their physical decline and mortality, and cope with the loss of roles associated with employment and parenting, of friends, relatives, and spouses through death. As physical health declines, day-to-day difficulties with self-care become prominent. Numerous studies have reported an association between functional impairment and depression (e.g., Pennix, Leveille, Ferucci, van Eijk, & Guralink, 1999). Along with physical decline comes an increased recognition of mortality. Batson, Schoenrade, and Ventis (1993), note that older adults no longer consider death an event which will take place in the distant future. Death is real. The end of one's life is made even more salient by the death of friends and loved ones, which may result in loneliness.

The high rate of religiousness in older adults suggests that religion serves an important purpose in their lives. Numerous researchers have noted that religion can be especially helpful in coping with life's difficulties (for reviews, see Ano & Vasconcelles, 2005; Harrison et al, 2001). Pargament (1997) has suggested that people tend to turn to religion when it is available to them and when human resources have been exhausted. However, research has shown that engaging religion when in need can have both positive and negative outcomes for mental health. Using religion in a positive way (e.g., praying to God for support) is associated with positive mental health, while using religion in a negative way (e.g., feeling as if God has punished one or that the Devil has possessed one) is associated with worse mental health outcomes. Further, higher levels of religiousness have been associated with negative attitudes such as authoritarianism and distrust of people with other beliefs (McGowan & Midlarsky, in press).

Operational Definitions of Religiousness

Early exploration of the relationship between religion and health focused on differences in religious affiliation and denomination (Moreira-Almedia, Neto, & Koenig, 2006).

Associations between religious affiliation and health allowed for speculation regarding the benefit of certain religious practices. Yet, religious affiliation does not capture dedication to one's religion. Moreira-Almeda, Neto, and Koenig note that research exploring the relationship between religion and health has yielded more robust effects when it assessed the relationship using degree of religious involvement rather than religious affiliation.

Religious attendance eventually became a more common method for measuring religiousness (Levin & Vanderpool, 1989). Unlike religious affiliation, which can only capture group differences, religious attendance can provide an index of religious involvement. Studies that employed measures of religious activity yielded stronger associations between religiousness and mental health (See Levin & Vanderpool, 1987 for a review). Much of the prior research, however, is epidemiological and measures religious attendance using only a single item. Additionally, religious attendance has typically been studied in relationship to physical health rather than mental health—increased attendance is associated with better physical health and less health risk.

Although quantifying religious attendance was an improvement, it did not capture the highly nuanced nature of religiousness. Allport (1954) was the first to develop a multidimensional construct of religiosity. Intrinsic religiosity, according to Allport, captures one's personal faith and devotion, while extrinsic religiosity refers to behaviors and activities such as prayer and attending services. In his discussion, Allport frames extrinsic religiosity as self-serving and suggested that it was completed with the goal of improving one's status in the community (Kirkpatrick & Hood, 1990).

Mindel and Vaughn (1978) distinguished between religious behaviors completed under the imprimatur of the formal religious authority and activities completed independently. The

authors dubbed these two dimensions organizational and nonorganizational/subjective religiosity, respectively. Organizational religiosity includes attendance at religious services or other activities. Nonorganizational/subjective religiosity includes private prayer or reading from scripture, participating in a prayer group, or listening to religious programming on the radio. Subsequent factor analysis supported this distinction (Krause & Tran, 1989). Chatters, Levin, and Taylor (1992) later refined this construct. Subjective religiosity was shown to be associated with aspects of psychological health (e.g., life satisfaction) independently of nonorganizational religiosity (Levin, Taylor, & Chatters, 1995). The resulting scale yields organizational and nonorganizational religiosity measures as well as a subjective religiosity scale capturing the importance of religion in one's life.

Levin, Taylor, and Chatters did much to increase the complexity of religiosity measures, which allowed for a more complete picture of the relationship between religiousness and mental health. However, previous work from our lab (Gregory, 2001) has noted that even multidimensional measures remain largely behavioral; organizational and nonorganizational religiosity assess behavior, while subjective religiosity refers to the importance of religion in one's family and one's life. More specifically, the Subjective Religiosity Scale captures (1) how religious one feels, (2) how important religion was in one's household growing up, and (3) the importance attributed by parents to taking their children to religious services. It is therefore unclear whether the determination of religious importance is based upon behavior, a deep connection with the Divine, or the ubiquity of religion in one's life and decision making.

Researchers may have turned away from the assessment of religious motivation due to Allport's pejorative framing of external religious expression and behavior. Allport and Ross (1967) developed the Intrinsic and Extrinsic Religiosity Scale and found that people higher in

extrinsic religiosity displayed a greater incidence of prejudice. Their efforts can be placed within the context of the post-World War II emphasis on the potential links between religion and prejudice, especially anti-Semitism (Hill & Pargament, 2003).

Hoge (1972) noted that the distinction between extrinsic and intrinsic religiosity could be further refined, noting Allport's emphasis on religious motivation. The resulting scale included 10 items capturing intrinsic religious motivation—the degree to which an individual lives his or her religion, religion restricts behavior, and influences secular decision making. A database search revealed that Hoge's Intrinsic Religious Motivation Scale was cited 290 times in the nearly 30 years since its development, and it remains widely used in contemporary research. In 1997, Koenig, Parkerson, and Meador adapted Hoge's intrinsic religiosity scale for a 5-item multidimensional scale of religiousness. The resulting scale (The Duke Religion Scale) consisted of 1 item capturing organizational religiosity, 2 items capturing nonorganizational religiosity, and 2 items capturing intrinsic religiosity. These three constructs are presented as representing the three major dimensions of religiosity (Koenig & Futterman, 1995). Other scales have further expanded the notion of religious motivation—as in “closeness to God” (e.g., The Spiritual Support scale; Maton, 1989). However, an examination of these measures is beyond the scope of this work (See Hill & Pargament, 2003 for a review).

Religiousness and Mental Health

Psychology and psychiatry have been slow to embrace the study of religion or to recognize that religion is related to mental health (Moreira-Almedia, Neto, & Koenig, 2006). Seminal thinkers in the psychological sciences such as Freud, Jung, and James displayed significant interest in the complex relationships among religion, spirituality, and psychological well-being. However, while recent scholarship has suggested that Freud was more ambivalent

about religion than many of his writings suggest (Vitz, 1993), his official position had a deep and long-lasting resonance among the psychoanalytic and psychological community. Freud wrote that God was a manifestation humans' need for security; a projection of the desire for protection by a father figure which facilitated the transition from childhood to adulthood (Freud, 1927). Early psychoanalytic theory and practice might be said to have, at best, neglected religion and at worst framed religious belief as pathological. Positivistic and naturalistic perspectives came thus to dominate mental health throughout the 20th century, and religiousness and spirituality were viewed as immaterial and therefore beyond the scope of scientific inquiry. Those few researchers who were interested in religion typically "buried religious variables in the methods and results sections" (Miller & Thoresen, 2003, p. 26) and tended not to emphasize such findings in discussion sections within their papers.

The emergence of Rogerian humanistic values in the 1950s and 1960s shifted away from the psychoanalytic enmity toward religion but remained relatively indifferent to God and the potential benefits of religiousness. Others remained unconvinced. Albert Ellis, for instance, continued to suggest that religion was deleterious to mental health because it encouraged passivity and inhibition. Ellis asserted that religion reinforced irrational thinking which artificially increased well-being but in the long term resulted in emotional disturbance. Structured religious belief systems do not encourage the expressiveness and flexibility that Ellis believed necessary for optimal psychological health. As a result, Ellis believed that the less religious someone was, the better his or her mental health would be (Ellis, 1987). Wendell Waters (1992) likewise suggested that religiousness may lead to low self-esteem, depression, and sometimes to psychosis. On the whole, however, the mental health field came to view religion

more favorably in the 1970s and 1980s as scholars recognized the psychological benefits of religious practices such as prayer, meditation, and mindfulness.

Roughly 50 years after Freud's death, then, the focus on religiousness returned in a flurry of research in the 1980s and 1990s. The relationship between religiousness and improved mental health is now well documented, despite some studies revealing no association between them (Courtenay, Poon, Martin, Clayton, & Johnson, 1992; Koenig, Ford, George, Blazer, & Meador, 1993). In their 2006 meta-analysis, Moreira-Almeida, Neto, and Koenig reported that over two-thirds of the 850 articles that they reviewed revealed a positive association between religiousness and life-satisfaction or subjective well-being and a negative association between religiousness and depression, anxiety, and overall psychological distress.

A large number of studies have focused on the relationship between organizational religiosity and mental health. Religious attendance has been inversely associated with depression in many studies (Bosworth, Park, McQuoid, Hays, & Steffens, 2003; Braam, Beekman, Deeg, & van Tilburg, 2001; Koenig, Hays, George, Blazer, Larson et al, 1997; Meertens, Scheepers, & Tax, 2003; Milstein, Bruce, Gargon, Brown, Raue, et al, 2003; Pressman, Lyons, & Larson, 1990).

There is little agreement regarding the mechanisms through which organizational religiosity effects positive changes in mental health. Koenig, McCullough, and Larson (2001) suggest that religiosity may positively influence mental health through spiritual, social, and intellectual avenues. Ellison et al (2009) note that religious services bring together like-minded groups of people. Collective participation in the religious community's sacred rituals may reinforce personal convictions (Berger, 1967; Ellison, 1994; Krause, 2003).

Further, religious congregations often share common socioeconomic, ethnic, and educational characteristics. Such similarities increase the likelihood that meaningful friendships can be developed. The regularity of religious services further strengthens these bonds, as does the tendency of many adults to remain in the same church, parish, or synagogue for many years at a time. Such relationships may also extend outside of the formal service to other sanctioned events and groups (e.g., volunteering at a church shelter or membership in The Knights of Columbus; Bradley, 1995; Ellison & George, 1994). Colucci and Martin (2008) showed that religious involvement is associated with decreased risk of suicide and suggest that this relationship is due to increased social integration. Similarly, Ferraro and Kelley-Moore (2000) indicate that the more socially integrated individuals are into their religious community, the more likely they are to ask for help when such help is needed.

Additionally, because religious institutions encourage helping behavior or have formal programs to assist those in distress (Trinitapoli, 2005), members of those institutions are likely to aid others in need. Prior work has shown that attendees at religious services readily assist other members by providing material goods and emotional support, knowing that they will also receive aid in their time of need (Ellison & George, 1994; Krause, 2002). Krause (2008) showed that perceiving that emotional support was available among older churchgoing adults was closely tied to sustaining mental health.

Finally, participation in formal religious services and activities may implicitly or explicitly encourage healthy behavior and lifestyles (Hill, Ellison, Burdette, & Musick, 2007). Attendance at religious services may embed an individual in a community adhering to moral codes that prohibit excessive drinking, and prior research indicates that there is a negative association between religious service attendance and drinking (Hill & McCullough, 2007;

Koenig, George, Meador, Blazer, & Ford, 1994). Religiousness has also been associated with safer sexual practices and monogamy (See Koenig, 2001 for a review) as well as a lower incidence of smoking (Gillum, 2005).

Intrinsic religiosity has also been associated with improved mental health. In a sample of older adults hospitalized due to medical illness, Koenig, George, and Peterson (1998) found that those higher in intrinsic religiosity displayed a more rapid remission of depression than did those low in intrinsic religiosity. Kendler, Gardner, and Prescott (1997) found that personal devotion, which captures both intrinsic and nonorganizational religiosity (e.g., consciousness of religious purpose, frequency of seeking spiritual comfort, and frequency of private prayer), was associated with a decreased incidence of depression. Fehring, Miller, and Shaw (1997) found a positive association between intrinsic religiosity and both increased hope and positive mood states in a sample of older adults with cancer diagnoses. A negative relationship was also indicated between intrinsic religiosity and depression as well as other negative mood states such as depression.

While intrinsic religiosity is closely tied to religious service attendance and private prayer, these behaviors do not capture the degree to which religion guides an individual's decisions and behavior. Allport (1959) notes that individuals high in intrinsic religiosity "live" their religion, which affords them increased purpose and meaning. Intrinsic religiosity may positively influence mental and physical health outcomes because it allows older adults to transcend poor health or other difficulties, drawing their self-esteem and purpose from their faith instead. While physical health decline may result in the loss of certain activities, the religious beliefs, traditions, and purpose of older adults may remain unchanged. Such a view may cultivate optimism which facilitates positive mental health outcomes (Koenig, George, & Peterson, 1998).

Religious Affiliation and Mental Health

Prior research suggests that Jews tend to display a higher incidence of depression than Christians do in both clinical and community samples (See McCullough & Larson, 1999 for a review). On the other hand, Christians display higher rates of alcoholism (Levav, Kohn, Golding, & Weissman, 1997). Many Jewish groups tend to discourage the use of alcohol. As a result, Jews with latent psychopathology may tend to express mental illness in the form of depressive or anxiety symptoms. Another possibility is that Jewish people, especially those of Eastern European descent, may be more willing to disclose negative emotions (Glicksman, 1991). Previous work has shown that Jews are more stigma tolerant and have more favorable attitudes towards psychotherapy than do Christians (McGowan & Midlarsky, in press). Nevertheless, the consistency with which prior research has demonstrated elevated rates of affective disorders among Jews as opposed to Christians suggests that fundamental differences between these groups lead to disparate manifestations of psychopathology.

Religious Affiliation, Religiousness, and Mental Health

Because prior research has shown that Jews often display higher rates of depression than Christians it is important to understand how different dimensions of religiosity are associated with mental health. While a large amount of research suggests a positive association between increased religiousness and mental health, studies have largely consisted of Christian samples (Koenig et al., 2001). Limiting this study to Caucasian participants offers a unique opportunity to examine the relationship between religiousness and psychological distress among a sample including similar numbers of Christians (74) and Jews (69).

Cohen (2002) suggests that core differences between Christianity and Judaism may be responsible for the association of certain dimensions of religiosity with better mental health

among members of one group but not the other. One fundamental distinction between these two religions concerns the nature of membership. According to Morris (1996), *assent* religions rely on members' shared adherence to common theology, truths, and values. On the other hand, *descent* religions pass membership from one person to another biologically. Christianity is therefore an assent religion, while Judaism is a descent religion, lending it an ethnic membership component (Neusner, 1993). While Jewish theologians such as Maimonides offered principles of faith that include a belief in a God who lacks physical presence, it is not clear how one adheres to them in Judaism. Cohen and Koenig (2003) note that because rabbinical scholars such as Maimonides (1967) have traditionally taught that the true nature of God cannot be known and that there is no "personal" relationship with God as there is in Christianity, significant individual variations in belief are acceptable. Because adherence to such beliefs is not vital to Jewish peoplehood a wide range of beliefs about God are viewed as acceptable by Jews (Ariel, 1995).

Such a contrast leads to important differences in the practices of Christians and Jews (Cohen, 2002). The emphasis on belief in Christian tradition necessitates the cultivation of a personal relationship with God or other religious figures such as the Virgin Mary as in Catholicism. Faith in the Divine is cultivated through individual spiritual practices and private prayer in addition to attendance at formal religious services. A personal relationship with God allows one to achieve salvation and entrance into the Kingdom of God in the Afterlife. For Catholics, a personal relationship with God is mediated through the church while in Protestantism, each person is responsible for the development of their individual connection with the Divine. Adherence to belief for Christians is of vital importance not only in determining membership, but also in preparing for the Hereafter. In contrast, religious adherence in Judaism is measured by the degree of observance of *halakha*, or law, the individual's relationship with

the Jewish community, and compassion for others. Belief in God is assumed but not required. While Christianity emphasizes a personal relationship with God, self-sacrifice, and salvation, Judaism emphasizes compassion and bringing goodness into the world (Zedek, 1998). It has been noted that perhaps the most salient distinction between Christianity and Judaism concerns the emphasis on the cultivation of internal states among Christians and on religious behavior by Jews (Prager & Telushkin, 1981). Jewish law, especially as implemented by Orthodox Jews, provides hundreds of rules that govern the individual's daily life and relationships. While some Christians traditions provide close rules for members—Catholicism and Evangelism provide specific teachings on social issues such as abortion and marriage—many Christian denominations provide few behavioral guidelines.

Empirical work supports this distinction. Among Jews, degree of religiousness tends to be evaluated based on adherence to religious practices and synagogue attendance. Protestants, on the other hand, evaluate their level of religiosity based on not only adherence to religious rituals and church attendance, but also on belief in Protestant teachings (Cohen, Siegel, & Rozin, 2003). There is also evidence that Protestants consider internal states an important aspect of religiousness while Jews do not. More specifically, Cohen and Rozin (2001) discovered that Protestants were much more concerned about the moral consequences of thoughts than were Jews.

In the only known empirical study exploring the relationship of religiosity to well-being among Jews, Catholics, and Protestants, Cohen (2002) found that religious belief, spirituality, and coping by turning to God were strongly associated with life satisfaction and happiness for Catholics and Protestants but not for Jews. However, all three groups displayed a strong association between increased congregational support and higher life satisfaction. Cohen's paper

consisted of three separate studies. In the first, participants were 2,279 adults, consisting of 1524 Protestants, 705 Catholics, and 50 Jews. Religiousness was assessed using ad hoc measures capturing congregational support (2 items), religious belief (2 items), spirituality (6 items; e.g., desire to be closer to God; feeling deep inner peace or harmony), reliance on God in dealing with problems (4 items), and public religious practice (2 items). Happiness was measured using a single item on a 4-point scale, with 1 reflecting “very happy” and 4 reflecting “not happy at all.” Catholics and Protestants displayed higher levels of religious belief, spirituality, and tendency to turn to God for help than Jews. Correlational analyses revealed significant associations between spirituality and reliance on God and happiness for Catholics and Protestants but not Jews. The authors note, however, that the small number of Jews in this study as well as few degrees of freedom resulting from skipped items make it difficult to draw conclusions.

A second study was then conducted to replicate the first study but this time including a larger number of Jewish participants. The Internet was used to recruit a total of 309 adult participants including 94 Catholics, 95 Jews, and 120 Protestants. Measures of religiosity were consistent with the first study; however, life satisfaction rather than happiness was used as the dependent measure. Life Satisfaction, which captures global view of one’s life in contrast to happiness which captures a more transitory state, was assessed using the Satisfaction with Life Scale (SWLS; Pavot & Diener, 1993) and the Delighted-Terrible Scale (DT; Andrews & Robinson, 1991). Neuroticism, Optimism, and Pessimism were also included in this study as controls. Catholics and Protestants displayed higher levels of belief, spirituality, and coping with problems by turning to God than did Jews. Catholics, Protestants, and Jews displayed comparable levels of public religious practice. Regression analyses were conducted which included demographics (sex, age, education), personality traits (neuroticism, optimism, and

pessimism), and religiosity (public practice, turning to God for help/coping, congregational support, belief, and spirituality). For Catholics, public practice was significantly related to the SWLS scale, and public practice and spirituality were significantly associated with the DT scale. For Protestants, religious belief and spirituality were significantly related to the SWLS scale, and spirituality was significantly related to the DT scale. For Jews, public practice and congregational support were associated with the SWLS scale, while none of the religiosity measures were associated with the DT scale.

Cohen's (2002) third study explores the same questions as studies one and two, this time using a sample of Protestant and Catholic college students ranging in age from 17 to 23. The college from which the sample was drawn did not have a significant number of Jewish students. The sample consisted of 163 participants (96 Protestants and 67 Catholics). Happiness was assessed using a single item where -7 reflected completely unhappy and $+7$ reflected completely happy. Life satisfaction was again assessed using the SWLS scale. Religiosity scales were expanded in this third study, though measures of congregational support, spirituality, and religious coping were comparable to the first two studies. Two items were added to capture religious identity (e.g., "How important a part of your identity is your religion or faith for you?"). Expanded measures of Christian religious belief (15 items), practice (16 items), and knowledge (17 items) were added following Cohen, Siegel, and Rozin (2003). These measures were developed using a Protestant sample and no additional items were added due to the presence of Catholics in this current sample. Catholic and Protestant students displayed comparable levels of religious identity, spirituality, religious practice, religious belief, and religious coping, while Protestants displayed slightly higher degrees of congregational support and religious knowledge. Regression analyses revealed that religious identity, congregational support, and spirituality all

made unique contributions to SWLS. In terms of happiness, only coping through turning to God made a significant contribution for Catholics. For Protestants, only spirituality made a unique contribution to the prediction of SWLS and happiness scores.

While this work provides important insight into the relationship among religious affiliation, religiousness, and well-being, no known study has yet explored how the relationship between these differing dimensions of religiosity and psychological distress may vary between Christians and Jews. This paper will therefore seek to fill this gap, exploring the association between organizational and intrinsic religiosity and depression and anxiety among older adult Christians and Jews.

Gender and Religiousness

When traveling in France my father noticed a line of cars in front of a Catholic cathedral. When he looked more closely, he observed that men were dropping their wives off for Sunday mass and then driving away, presumably to return afterward to pick them up after the service. Scenes of this kind are not uncommon, and gender differences in religiousness across the lifespan are well documented; in research studies with women of all ages, women tend to be both more organizationally and intrinsically religious than are men (See Francis, 1997 for a review; Milevsky & Levitt, 2004). The expectation of gender differences in religiosity is so pervasive that gender is ubiquitously included as a control variable in research on religiousness. Evidence of gender differences in religiosity have been noted among early Greek, Roman, and Christian writers. For instance, Greek writers noted that women were more likely to be persuaded to join new religions or cults (Stark, 2002, citing Beard, North, & Price, 1998). Likewise, some have suggested that early Christian converts were also more likely to be women (Stark, 1996). Recent polls confirm this difference. For instance, in a 2002 Gallup Poll, 68% of women reported that

religion was very important to them compared to 48% of men. Likewise, 69% of women belonged to a church or synagogue compared to 59% of men.

The reasons for gender differences in religiosity continue to stimulate lively debates (Ellison, Finch, Ryan, & Salinas, 2009). Higher levels of religiosity in women may have origins in gender norms and social roles that are reinforced from a young age. Young girls are typically taught to be sociable, friendly, deferent, and to engage in caretaking tasks such as looking after younger siblings or helping with meal preparation. On the other hand, boys are socialized to be assertive and autonomous. They are often afforded more freedom from a younger age which allows them to take on tasks outside the home such as a paper-route. Idler (1987) noted that gender socialization restricts the scope of females' relational opportunities, and religious contexts are among the few places in which women are encouraged to interact with others. Because women often take a more active role in childcare, they may also be responsible for the religious education of the children, which leads them to spend more time at religious services, rituals, and social functions. Koenig (1994) similarly suggests that religion is more important to older women because of their lower social status. Religious participation allows them to participate in an institution that may increase their esteem and stature. Likewise, Beit-Hallahmi and Argyle (1997) have noted that female traits such as nurturance, compassion, and deference to authority are highly important in religious settings. Religious participation may be appealing to women because it is consistent with other social expectations of femininity.

Miller and Hoffman (1995) suggested that women tend to be more religious because religion is averse to risk, and risk aversion is consistent with female socialization and deference. The authors note that religion provides a risk management strategy for dealing with existential questions such as the fear of death, desire for control, and need for comfort in times of difficulty.

Subsequently, Miller and Stark (2002) offered further empirical support for this explanation, noting that women may be more religious than men because in some traditions it is theologically *risky* to be irreligious. Theologically, Catholic priest and philosopher Blaise Pascal (1623-1662) noted that there is no harm believing in God, while the potential consequences of not believing are substantial. If one believes in God and He exists, then the reward is eternal life, and if one believes in God and He does not exist, then there is no harm done. However, if one does not believe in God and He does exist, then the consequence is damnation. This *theological bet* became known as “Pascal’s wager” (Durkin & Greely, 1991). The possibility of posthumous punishment is omnipresent among Western religions including Christianity, Islam, and Orthodox Judaism, while Reform and Conservative Judaism do not ascribe to a specific belief in the afterlife (Miller & Stark, 2002).

Physiological explanations have also been offered to explain higher degrees of religiosity among women. Stark (2002) notes the growing body of work indicating a physiological underpinning to gender differences in crime. Men, especially young men, tend to be impulsive; they display risky behaviors such as driving without a seatbelt or while intoxicated, and gambling compulsively (Gottfredson & Hirschi, 1990). As noted above, religious communities often promote healthy behaviors and prohibit risky behavior such as promiscuity or excessive drinking. Increased religiousness in women may reflect a biological desire for security, while men’s lesser religious adherence may suggest that they participate in behavior inconsistent with religious law. Stark (2002) notes that criminology and the social scientific study of religion overlap on the same set of proscribed behaviors. Physiological differences between men and women such as testosterone levels have been shown to be associated with antisocial behavior (Dabbs & Morris, 1990). No work, however, has yet explored the direct association between

testosterone levels or other physiological substrates and religiousness.

Gender and Mental Health

While there is strong evidence that women are more religious than men, increased religiousness is not always linked to higher rates of mental health (Krause, Ellison, & Marcum, 2002). Ellison et al (2009) note that this may be the reason that meaningful gender x religiosity interactions are seldom reported in the research literature. That is, while women consistently report higher levels of religiousness than do men, they do not report better mental health.

Indeed, women typically report higher rates of depression and anxiety than do men (Leach, Christensen, Mackinnon, Windsor, & Butterworth, 2008; Piccinelli & Wilkinson, 2000; Prince et al., 1999; Silverstein, 1999). Gove (1984) argues that gender differences in psychological distress are rooted in the different social roles which men and women tend to adopt. Men tend to occupy *fixed* roles which are highly structured and associated with higher esteem and better mental health. On the other hand, women tend to occupy *nurturant* roles which often strain their personal resources and impair their ability to cope with distress. Further, in times of distress it may be difficult for female caregivers to adopt a sick role themselves which may result in the development of a psychological disorder.

Other researchers have suggested that personality factors are responsible for gender differences in depression. In an adult sample, Goodwin and Gotlib (2004) found that neuroticism in part accounted for the relationship between gender and depression, though this association remained even when neuroticism was controlled for. Leach et al. (2008) explored potential personality and psychosocial mediators of the relationship between gender and depression and anxiety in three age cohorts: 20-24, 40-44, and 60-64. Among the shared mediators for all age groups of both depression and anxiety was childhood adversity, mastery, behavioral inhibition,

neuroticism, ruminative style, physical health, physical activity, and perceived interpersonal problems.

Gender, Religiousness, and Mental Health

Two competing perspectives have been offered to explain how gender influences the relationship between religiousness and mental health (McFarland, 2009). The first suggests that women derive more benefit from religiousness because they are more open to the social networks and support that accompany religious membership. The second framework argues that men gain more benefit from religiousness because religion creates a unique context within which they can ask for help. Additionally, this framework suggests that because men are more likely than women to take on leadership roles and positions of authority in their church or synagogue, religiousness may elevate their self-esteem. These competing perspectives and the empirical literature supporting them are reviewed below.

The first framework suggests that women derive a greater mental health benefit from religiosity than men because women tend to form more social relationships in religious contexts than do men. Characteristics often associated with femininity such as nurturance and strong interpersonal communication may allow women to quickly develop and maintain friendships. Because women often comprise the majority of religious groups, female members have access to a large number of peers with whom they share a great deal in common. Furthermore, the frequent sharing of problems among groups of religious women may lead certain members to become quite knowledgeable about certain issues and adept at giving advice (Wuthnow, 1994).

A limited number of studies have explored variations in the relationship between intrinsic religiosity and mental health by gender. In a sample of 318 Catholic undergraduate and graduate students, Templin and Martin (1999) found that men and women did not differ in their degree of

intrinsic religiosity. However, increased intrinsic religiosity was associated with less frequent drinking and fewer drinking related problems for females but not for males. The authors suggest that women may more naturally connect religious beliefs and values with healthy behaviors than men. Prior research has suggested that intrinsic religiosity may increase an individual's sense of purpose and meaning, which leads to better physical and mental health. Cohen, Hall, Koenig, and Meador (2005) note that intrinsic religiosity appears to be related to the private and emotional aspects of religion. It is possible that women may better use their emotional connection with God to foster healthy behaviors and well-being.

There is also empirical evidence that women extract more mental health benefit from organizational religiosity than do men. In a sample of 700 Midwestern adults ranging from ages 18 to 55, Mirola (1999) found that women who attended church more frequently and those who reported higher levels of religiousness displayed less depressive symptomatology. Men did not display an association between religiousness and depression. The author argues that women's higher frequency of attendance places them in a better position to develop and employ social support networks available through religious institutions.

Hintikka, Koskela, Kontula, and Viinamäki (2000) attained comparable results in a large epidemiological study in Finland. The sample consisted of 1,975 adults ranging in age from 18 to 74, and mental health was assessed using the General Health Questionnaire (Goldberg & Williams, 1988) which includes a total of 12 items assessing anxiety, depression, and self-esteem. Results indicated that women who attended religious services more frequently displayed better mental health. This association remained when social contact and family support were controlled for. There was no relationship between religious attendance and mental health among men. However, the authors note that measuring religiousness using only a single item as was

the case in their study limits the conclusions that can be drawn.

Strawbridge, Shema, Cohen, and Kaplan (2001) showed that women tend to reap more mental health benefits from religious attendance than men over time. A sample of 2,676 participants were first contacted in 1965 (participants ranged in age between 17 and 65 in 1965) and then subsequently in 1974, 1983, and 1994. In their analyses, religious attendance was dichotomized, with participants who attended religious services once per week or more in one group and those who attended less than once per week or not at all, in the other. Mental health was assessed using the 18-item depression scale developed by Roberts and O'Keefe (1981). Results indicated that women who attended religious services at least once per week and also met criteria for depression were more likely to have experienced remission at follow-up than religious men. Among this study's limitations, however, is the unidimensional measurement of religious attendance, which did not capture religious activity outside of formal services or religious motivation.

In a sample of 3,012 Mexican-American Catholics between 18 and 59 years of age, Ellison, Finch, Ryan, and Salinas (2009) found that church attendance was associated with lower rates of depression; however, this effect was no longer significant after controlling for social support. Religious salience, though, was related to decreased depression in both men and women independently of controls, but was significantly stronger for women. This study demonstrated significant interaction effects. The authors note that the greater benefit associated with being a Mexican-American female may be related to the emphasis on Marian devotion among this group. Our Lady of Guadalupe is also the patron Saint of Mexico. The cultural emphasis on a female religious figure may empower Mexican-American women and provide them with validation which results in psychological benefit.

Among studies of older adults, only one article was found showing that women attain a greater psychological benefit from religiousness than men do. Norton, Skoog, Franklin, Corcoran, Tschanz, Zandi, et al. (2006) explored the relationship among gender, religiousness, and depression using a sample of 4,468 older adults aged 65 to 100 years. One highly desirable characteristic of this sample was its homogeneity; all participants lived in Cache County, Utah and over 90% were members of the Church of Jesus Christ of Latter-Day Saints. Frequency of attendance at religious services was measured using a single item and depression was measured using the Diagnostic Interview Schedule (Robins, Helzer, Croughn, & Ratcliff, 1981). There was an interaction effect between religiosity and gender on depression. Results indicated that women reporting more frequent church attendance were more likely to report lower levels of depression. For men, the opposite association was found; more frequent religious attendance was associated with higher incidence of depression. Both effects remained significant when control variables were introduced, including demographics, physical health, and social support. The authors suggest that, like women in other religious groups, female Latter-Day Saints members build strong social bonds with other members of their church which benefits their mental health. While The Church of Latter-Day Saints is largely patriarchal in its structure—men hold most positions of authority—Norton and her colleagues note that such leadership roles are typically filled by middle-aged men. Older Latter-Day Saints men may experience this lack of inclusion within the church authority as a significant loss and detrimental to their esteem.

While the homogeneity of this sample may allow for the results to be applied to comparable groups, it is difficult to generalize these findings to older adults more broadly. The authors also note that the measure of religiosity—one item assessing religious service attendance—does not allow for a full assessment of this construct.

The second framework suggests that men higher in religiousness will receive more psychological benefits than women higher in religiousness. In a sample of 45 at-risk (e.g., low socioeconomic status) high school students ranging in age from 14 to 17 years old, Davis, Kerr, and Robinson (2003) found that intrinsic religiosity was related to lower trait anxiety for boys but not girls. The authors suggest that females' high level of trait anxiety may have been the reason for this lack of association.

More convincing though are two other studies that lend support to this position, both of which use samples of older adults. Idler (1987) found evidence that both men and women higher in religiousness reap psychological benefits. Both public and private religiosity were assessed in a sample of 2,756 older adults residing in Connecticut. Public religiousness was measured using two items, one capturing religious attendance and the other the number of people that the individual knew within the religious congregation. Private religiousness, in this case, captured subjective feelings of religious importance. Depression was measured using the Center for Epidemiological Studies Scale (CES-D). There was an inverse association between increased public religiosity and lowered depressive symptoms among women and men. However, the association between public religiousness and decreased depression was stronger for women ($p < .001$) than for men ($p < .05$). Yet men higher in private religiousness also displayed fewer depressive symptoms than women higher in private religiousness. Idler notes that this finding may indicate contrasting coping styles; older men may withdraw to seek spiritual support, while older women seek support from the religious community or clergy.

The most compelling study supporting this framework is McFarland's 2009 paper, which examines gender differences in the association between religiosity and mental health longitudinally. The sample included 801 adults aged 65-94 years old and was drawn from

throughout the United States. Only Christians were included in this study. Participants were interviewed in two waves: 2001 and 2004. Organizational religiosity was assessed using three items capturing frequency of attendance at services, prayer services, and Bible study. Similarly, nonorganizational religiosity was measured using three items which quantified the frequency of private prayer, bible study, and loyalty to religious television or radio programs. Depression, death anxiety, optimism, and self-esteem were each assessed using between three and five items. For men, higher organizational religiosity was associated with lower depression symptomatology and higher optimism and self-esteem. This was not true for women. Moderate levels of organizational religiosity in men were associated with higher death anxiety. For women, both moderate and higher levels of nonorganizational religiousness were associated with decreased death anxiety. However, higher levels of organizational religiosity in women were related to more death anxiety. On the whole, men who more frequently participated in organized religious practices experienced higher levels of mental health and psychological well-being.

McFarland (2009) suggests that older men stand to gain more than older women from a comparable level of religious involvement. Women are more social and attend service more often, and yet they tend to be more deferent and occupy more subordinate roles. Heyer-Grey (2000) found that women are less likely to lead prayers, serve as Eucharistic ministers during communion, and read from scripture. Older men may thrive in organizations which offer opportunities for leadership. As they transition from the workforce into retirement, positions of authority within their church may provide an important source of self-esteem and agency. Women in contrast are less likely to have worked outside the home (Henretta, 2001). Older women also tend to maintain broader networks of friends, while men may more unilaterally draw friendships and support from religious participation. McFarland notes two other relevant areas of

research lending support to this position. Krause et al (2002) found that despite maintaining more relationships and the greater availability of support in their churches for women compared to men, men still displayed a greater physical health benefit than women. It may be the case that religious obligations and relationships maintained through religious institutions or events may lead women to overextend themselves. Women are often responsible for maintaining family relationships and friendships for both herself and her husband. As a woman's social network grows, new additions may lead to little benefit, instead exacting a price on her health and psychological well-being. Kessler, Price, and Wortman (1985) showed that maintaining large social networks may be deleterious to psychological health.

McFarland speculates that the unique challenges and circumstances of older adulthood lead the primary mental health benefit to shift from women to men. Men over 65 years of age tend to be retired and may be in need of activities and organization memberships which increase their social contact. Men occupy a high number of authority positions within religious organizations and may derive a significant mental health benefit from this activity, while women continue in more subordinate positions. Religious activity may be an effective compensation tool which allows older adult men to build agency and esteem.

Additionally, while women may have maintained strong ties with their religion throughout their lives, men may more fully explore and harness their religion in older adulthood. Consistent with social and biological explanations of gender differences in religiosity, women may be more naturally drawn to all forms of religiosity; however, while women are on the whole more religious, men who take advantage of religion may be required to behave in ways to which they are less accustomed, which leads to more positive life changes. Men must modify their behavior and their attitudes to a greater degree in order to participate in religious activities,

which may result in greater physical and mental health benefits. For instance, men may make more social contacts, provide support for others, and self-reflect more frequently than before through service attendance. Some sociological research has suggested that men's mental health tends to benefit more from being married than women's (Williams, 2003) despite the fact that men often have more reservations about commitment. Therefore, I speculate that like marital commitment in which men are often required to change more than women (men, for example, may give up unhealthy habits such as heavy drinking and promiscuity when they marry), so too do religious men experience more health benefits than religious women.

Summary

In sum, older adults display high rates of mental illness in part due to life-stage challenges, including the loss of loved ones and physical vitality. Older adults are highly religious and there is evidence for the benefits of religious coping on mental health. Specifically, there is evidence that organizational and intrinsic religiosity benefit mental health, though the mechanisms of these effects are still in question. However, most work exploring the relationship between religiosity and mental health has used Christian samples. Jews tend to report higher levels of depression than do Christians.

Fundamental differences between Christianity and Judaism suggest that contrasting dimensions of religiosity are used to determine religious membership and commitment. For Christians, adherence to ritual and attendance, belief, and a personal relationship with God indicate degree of religiosity, while for Jews synagogue attendance and ritual adherence alone appear to indicate level of religiosity. As might be expected, research has shown that adherence to ritual and service attendance, beliefs, and a personal relationship with God are related to increased life satisfaction and happiness for Christians. For Jews, on the other hand, it is

religious behavior such as synagogue attendance that is associated with higher levels of well-being.

The association between religiousness and mental health among men versus women also remains unclear. Research shows that women are more religious than men but women also display higher rates of mental illness. It has been suggested that women are drawn to religion more strongly than men because religion is consistent with their social roles as caretakers and nurturers, while biological perspectives suggest that women are more religious because religion offers a strategy for existential risk management. Prior work has suggested that women extract more benefit from religion because of their higher dedication and ability to build social connections; however, these studies have predominantly employed samples of younger adults. Recent work has revealed a stronger association between religiosity and better mental health for older men than for older women. One explanation for this is that men may be better positioned to take advantage of religion in late life because it fills a void left in the absence of career pursuits. Men hold more formal positions of authority in churches, synagogues, and religious organizations, while the roles of women tend to be subordinate. Older men may be drawing a significant amount of agency and esteem from religious activity leading to stronger associations between higher levels of religiousness and better mental health among men than women.

This study will be limited to Caucasian participants. Black Christians—especially those who belong to predominantly Black Churches—and White Christians differ significantly in their expression of religiousness (Jacobson & Heaton, 1990; Levin, Taylor, & Chatters, 1994), and the inclusion of both White and Black Christians in this sample would introduce a high level of complexity. Because this study focuses on Christian-Jewish differences, heterogeneity among the Christian group is not desirable.

Hypotheses

- I. There are religious affiliation differences in levels of intrinsic religiosity but not organizational religiosity. Christians and Jews will report comparable levels of organizational religiosity; however, Christians will report higher levels of intrinsic religiosity than Jews.
- II. There are gender differences in religiousness. More specifically, women will display higher levels of organizational and intrinsic religiosity than men.
- III. There are religious affiliation differences in number of depression and anxiety symptoms. Specifically, Jews will display a greater number of depression and anxiety symptoms than Christians.
- IV. There are gender differences in number of depression and anxiety symptoms. More specifically, older women will display a higher number of depression and anxiety symptoms than older men.
- V. Finally, we predict that religiousness is inversely related to number of depression and anxiety symptoms. More specifically, older adults higher in organizational and intrinsic religiosity will report fewer symptoms of depression and anxiety.

Research Questions

- I. Is the relationship between religiousness (organizational and intrinsic) and number of depression and anxiety symptoms similar among Christians and Jews? More specifically, do Christians display a stronger relationship between intrinsic religiosity and lower number of depression and anxiety symptoms than do Jews?
- II. Is the relationship between religiousness (organizational and intrinsic) and number of depression and anxiety symptoms similar among men and women? More specifically, do men

higher in religiousness (organizational and intrinsic) report a lower number of symptoms of depression and anxiety compared to women higher in religiousness?

Chapter III

METHOD

This study will use data that was collected as part of a larger study of older adults conducted in the metropolitan New York area, entitled *Psychotherapy and Counseling with Older Adults: Predictors and Barriers to Participation*. Funding was provided by the AARP Andrus Foundation to Elizabeth Midlarsky (Principal Investigator) at Teachers College, Columbia University.

Participants

Participants for this study included 143 community dwelling older adults, 94 women and 49 men. The sample consisted of Caucasians identifying as either Christian (74; 43 Catholics and 31 Protestants) or Jewish (69). The mean age was 76.82, with a mode of 80, and a range from 65 to 94 years of age. At the time of the study, 77 of the sample (53.8%) were widowed, 45 (31.5%) were married, 14 (9.8%) were divorced or separated, and 7 (4.9%) had never been married. Regarding education, 2 (2.1%) completed elementary school, 83 (58.1%) had some secondary education or a high school diploma, 26 (18.2%) had some college, and 31 (21.7%) had an undergraduate degree or had also completed a post-bachelors degree (See Appendix A for Demographic Questionnaire).

Measures

Organizational religiosity. The Organizational Religiosity Scale (Appendix B) was developed by Chatters, Levin, and Taylor (1992) and consists of 5 items, which assess formal participation in religious services and other activities. All items include either a “yes-no” response format or rest on a 5 or 6-point scale. The response choices include, 6 “Nearly Every Day,” 5 “At Least Once A Week,” 4 “A Few Times A Month,” 3 “A Few Times A Year,” 2

“Less Than Once A Year,” and 1 “Never.” A sample item includes “How often do you usually attend religious services?” The final item is “How much have you held positions or offices in your church, synagogue, or other place of worship?” with 5 representing “Very Often” and 1 representing “Never.” Chatters, Levin, and Taylor reported statistically significant factor loadings for each of these items. Factor coefficients ranged from .41 to .78. Cronbach’s alpha for organizational religiosity in this sample was .78.

Intrinsic religiosity. The Intrinsic Religiosity Scale (Hoge, 1972; Appendix C) consists of 10 items capturing the degree of religious commitment. The first seven items employ a 4-point scale with 4 reflecting “Strongly Agree,” 3 “Somewhat Agree,” 2 “Somewhat Disagree,” and 1 “Strongly Disagree.” The last three items employ a 4-point scale but the numerical anchors are reversed with 4 reflecting “Strongly Disagree” and so forth. The items on this scale do not reflect an individual’s religious behavior (e.g., time spent in prayer, attendance at a church or synagogue), but rather the degree to which one’s religion informs one’s life experience and decisions. Items include, “My faith involves all of my life,” and “Nothing is more important to me than serving God as best I know.” The internal reliability (Kuder-Richardson alpha) in the initial sample was .90. Cronbach’s alpha for intrinsic religiosity in this sample was .84.

Psychological distress. The Depression and Anxiety Subscales of the Brief Symptom Inventory (BSI; Derogatis, 1975; Derogatis & Spencer, 1982; Appendix D) was used to assess psychological distress. The BSI is a well-validated and reliable measure consisting of 53 items, which asks participants to report the degree to which they have been “bothered” by various psychiatric symptoms. Participants rate each item on a 5-point scale (0 to 4), with 0 representing “Not at all” and 4 representing “Extremely.” The BSI has been shown to be responsive to treatment (Lang, 2003).

BSI items map onto nine areas of psychiatric symptomatology: somatization, interpersonal sensitivity, obsessive-compulsive, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The depression and anxiety subscales were used to assess psychological distress in this sample because they most accurately capture the mental health status of a community dwelling sample of high functioning older adults such as this one. The other BSI subscales (e.g., psychoticism and paranoid ideation) capture more severe clinical symptoms and disorders. The BSI is often used in both clinical research and practice.

The depression subscale assesses hopelessness, suicidality, anhedonia, and sadness. For example, participants are asked about the degree to which they are distressed or bothered by “Feeling hopeless about the future.” Cronbach’s alpha in the standardization sample was .85 and test-retest reliability was .84. Cronbach’s alpha for the depression subscale in this sample was .83.

The anxiety subscale assesses restlessness, fearfulness, and panic symptoms. For example, participants are asked about the degree to which they are distressed or bothered by “nervousness or shakiness inside.” Cronbach’s alpha in the standardization sample was .81 and test-retest reliability was .79. Cronbach’s alpha for the anxiety subscale in this sample was .79.

The BSI provides two criteria for determining the presence of clinically significant psychological distress. The Global Severity Index (GSI) consists of the sum of all items the participant answered divided by the number of items answered (53 if all items were completed). GSI scores can be standardized, and the author recommends that *T* scores above 63 be considered clinically significant. Additionally, cases in which any two subscales are above 63 may be considered clinically significant. The GSI was not appropriate for the current sample because it includes items which capture severe psychopathology (e.g., psychoticism). Derogatis

(1993) does not provide criteria for determining clinical significance on the BSI subscales individually. However, previous research has applied this same clinical cutoff ($T > 63$) to the depression and anxiety subscales (Silver & Frohlinger-Graham, 2000). Further, while the BSI manual provides norming data for nonpatient male and female samples, the BSI was not validated for use with older adults. The average age of nonpatient adults in the original normative sample was 46. Hale, Cochran, and Hedgepath (1984) provided BSI norms for older adults ($N = 565$; Mean age = 73). Means differed between the original adult sample and the sample of older adults on 7 out of the 9 subscales. These means were used to calculate standardized T scores in the current study.

Physical Health. Following Hooker, Monahan, Shifren, and Hutchinson (1992), physical health was assessed using a 4-item scale assessing the degree to which participants believe their health to be adequate (Appendix E). Items capture general state of health, the extent to which physical health interferes with activity, perceptions of one's own health compared to others of the same age, and how often one worries about one's physical health. Hooker et al. note that prior research suggests that items assessing self-perception of health is highly related to morbidity and mortality (Idler & Kasl, 1991; Kaplan & Camacho, 1983). Cronbach's alpha in this sample was .69.

Social Support. Social support was assessed using the Social Support Questionnaire – Short Form (SSQSR; Sarason & Shearin, 1986) which is presented in Appendix F. The SSQSR is an abbreviated version of the 27-item scale developed by Sarason, Levine, Basham, and Sarason (1983) and consists of the 6 items from the full measure which have the higher scale factor loading (Sarason, Shearin, Pierce, & Sarason, 1987). The SSQSR items, like those on the full scale, consist of two parts. The first part asks individuals to name the *number* of people (e.g.,

family, non-family, and other) upon whom they can depend for support in a particular situation and the second part asks how *satisfied* the individual is with that level of support. The SSQSR yields two subscales which capture social support Number (SSQN) score and social support Satisfaction (SSQS) score. Satisfaction items rest on a 6-point Likert scale where 1 = “Very Dissatisfied” and 6 = “Very Satisfied.” A sample item includes, 1: “Whom can you really count on to be dependable when you need help?” 1a: “How satisfied are you with that level of support?” This study uses only the social support Satisfaction scores. Cronbach’s alpha in this sample was .90.

Personal Mastery. Sense of personal control was assessed using the Personal Mastery Scale (Pearlin & Schooler, 1978; Appendix G). This scale consists of 7 items which capture the degree to which participants perceive themselves as possessing personal control over life outcomes. Responses are made on a 4-point Likert scale ranging from 1 = strongly agree to 4 = strongly disagree. A sample item includes “I often feel helpless in dealing with the problems in my life.” Previous research has shown that this scale possesses adequate psychometric properties (Pearlin, Meneghan, Lieberman, & Mullan, 1981; Pearlin & Schooler, 1978). This measure is highly correlated with related scales including the general self-efficacy scale and locus of control scale (Woodruff & Cashman, 1993). The Personal Mastery Scale has been shown to have a Cronbach’s alpha of .70 or higher (Turner & Noh, 1988; Marshall & Lange, 1990). Cronbach’s alpha in this sample was .68. See Table 1 for study constructs and matching measurement scales.

Procedures

Participants for this study included community dwelling older adults. Those referred for this study were identified by their physician, clergy person, social worker, or senior center

Table 1

Study Variables and their Measures

Variable	Measure
<u>Religiosity:</u>	
Organizational	The Organizational Religiosity Scale (Chatters, Levin, & Taylor, 1992)
Intrinsic	The Intrinsic Religiosity Scale (Hoge, 1972)
<u>Psychological</u>	
<u>Distress:</u>	
Depression	The Brief Symptom Inventory (BSI): Depression Subscale (Derogatis & Spencer, 1982)
Anxiety	The Brief Symptom Inventory (BSI): Anxiety Subscale (Derogatis & Spencer, 1982)
<u>Resources:</u>	
Physical Health	Four-item Index of Perceived Physical Health (Hooker, Monahan, Shifren, & Hutchinson, 1992)
Social Support	The Social Support Questionnaire –Short Form (SSQSR; Sarason & Shearin, 1986)
Personal Control	Personal Mastery Scale (Pearlin & Schooler, 1978)
<u>Demographic:</u>	
Financial Adequacy	Perceived Financial Adequacy (Liang, Dvorkin, Kahana, & Mazian, 1980)
Education	Years of formal schooling

employee as potential candidates for counseling due to a recent transition or loss (e.g., the death of a spouse). However, participants typically had not received psychotherapy in the past or been diagnosed with a mental illness at any point in their lives. Any participant who reported receiving mental health treatment in the last five years was not included in the study.

Each participant was first contacted by phone and those who agreed to participate were interviewed in person (See Appendix H for Informed Consent). Of those contacted, the preponderance agreed to take part in the study (96%). Data were collected by graduate students who were trained to conduct interviews with older adults using standardized instruments. Interviews began with the collection of demographic information and lasted approximately two hours. After each interview, the participant was thanked and given a small gift and certificate of participation.

Data Analysis

Preliminary data analyses consisted of normality, correlational, and chi-square tests. Correlational analyses were completed to identify variables which co-vary with the dependent measures of depression and anxiety. Prior research suggests that physical health and social support are related to better mental health in late life (Koenig, Hays, George, Blazer, Larson, & colleagues, 1997) as is sense of personal control (Fiori, Brown, Cortina, & Antonucci, 2006). In addition, demographic variables including age, financial adequacy (Liang, Dvorkin, Kahana, & Mazian, 1980; Appendix I), and education were also entered into correlational analyses. Finally, the chi-square test of independence was used to insure that religious affiliation and gender were not related to one another, nor age, education, and financial adequacy.

In the primary analysis, linear regression was performed to assess religious affiliation and gender differences in religiousness, controlling for factors associated with religiousness

(education, physical health, social support, personal efficacy, and psychological distress). Second, multiple linear regression analyses were performed to account for the potentially confounding factors with respect to the relationship between religiousness and depression and anxiety. Demographic variables were entered in step one of the regression analyses, including gender, religious affiliation, and education. Next, resource variables were entered. Finally, religiosity variables were entered followed by the interaction terms. Following Aiken and West (1991), the main effect terms were centered prior to computing the interactions in order to minimize collinearity between raw and product terms. The Dunn method (Dunn, 1961; Glass & Hopkins, 1984) was used to control for Type 1 error rates associated with multiple significance tests in omnibus hypotheses tests for linear regression analyses. The Dunn method uses the Bonferroni inequality to determine critical t values. First, the alpha value is adjusted up by multiplying it by the number of significance tests. For instance, for an analysis with 10 significance tests, $\alpha = .01(10)$ yields a new alpha level of .10 for that family of comparisons. The adjusted alpha value, degrees of freedom, and number of contrasts are used to determine a revised critical t value (See Glass & Hopkins, 1984, Appendix, Table L).

Flom and Strauss (2003) recommend graphing interactions in linear and logistic regression to aid interpretation. Line graphs were therefore generated for significant findings in order to identify the combination of groups (e.g., male or female) and variable levels (e.g., higher or lower levels of organizational religiosity) exhibiting differences in depression and anxiety symptoms.

Chapter IV

RESULTS

The results are organized into four sections. First, the preliminary analyses are presented which includes initial tests of skewness, kurtosis, and normality as well as correlational analysis, chi-square test of independence, and descriptive statistics. Second, linear regression analyses are presented in the primary analysis section which addresses study hypotheses and research questions. Third, supplemental analyses including logistic regression estimating vulnerability to clinical depression and anxiety are offered. Finally, findings from the primary and supplemental analyses are summarized and contrasted.

Preliminary Analysis

Skewness and kurtosis tests for the continuous predictors and outcome variables were completed. Skewness and kurtosis scores which fall between 1 and -1 indicate a normal distribution. The assumption of normality was met in this sample.

Means, standard deviations, ranges, and alpha levels (theoretical and observed) for all study variables are included in Table 2. Means, standard deviations, and ranges are reported separately for Christians and Jews (Table 3) and for men and women (Table 4). The chi-square test of independence was completed to assess the association between religious affiliation and gender and to insure their independence from other demographic variables including age, education, and financial adequacy. A median split was performed for age (median = 77), education (median = 12 years of formal schooling), and perceived financial adequacy (median = 3; "It is just enough"). There was no association between religious affiliation and age, $\chi^2 (1, N = 143) = 3.14, p = .08$, gender, $\chi^2 (1, N = 143) = .35, p = .56$, or financial adequacy, $\chi^2 (1, N = 142) = .85, p = .36$. There was an association between religious affiliation and education. Jews

Table 2

Mean, Standard Deviation, Range, and Cronbach's Alpha for Study Variables

Variable	<i>M</i>	<i>SD</i>	Observed Range	Theoretical Alpha	Observed Alpha
Religion (J = 0, C = 1)	52% Christian		—	—	—
Gender (M = 0, F = 1)	66% Female		—	—	—
Education	12.59	3.08	6.00-22.00	—	—
Perceived Health	3.21	.87	1.00-5.00	—	—
Social Support	4.74	1.43	1.00-6.00	.90	.90
Personal Efficacy	2.56	.57	1.00-4.00	.70	.68
Org Religiosity	1.82	.69	1.00-3.80	.41-.78 ^a	.78
Intrinsic Religiosity	2.18	.64	1.00-3.90	.90	.84
Depression	1.35	1.00	0.00-3.50	.85	.83
Anxiety	1.00	.79	0.00-3.67	.81	.79

Note. ^aRange of item factor coefficients; J = Jewish; C = Christian; M = Male; F = Female; Org = Organizational

Table 3

Mean, Standard Deviation, Range, and Cronbach's Alpha by Religious Affiliation

	Christians (<i>n</i> = 74)				Jews (<i>n</i> = 69)			
	<i>M</i>	<i>SD</i>	Range	Alpha	<i>M</i>	<i>SD</i>	Range	Alpha
Education	11.97	2.80	6.00-18.00	—	13.26	3.25	6.00-22.00	—
Perceived Health	3.16	.91	1.00-5.00	—	3.26	.83	1.00-5.00	—
Social Support	4.56	1.52	1.00-6.00	.92	4.93	1.32	1.00-6.00	.87
Personal Efficacy	2.48	.59	1.14-4.00	.74	2.65	.55	1.57-4.00	.61
Org Rel	1.81	.74	1.00-3.80	.79	1.83	.64	1.00-3.20	.77
Intrinsic Rel	2.39	.65	1.30-3.90	.85	1.96	.56	1.00-3.00	.80
Depression	1.38	.90	0.00-3.00	.77	1.32	1.11	0.00-3.50	.86
Anxiety	.98	.69	0.00-3.67	.73	1.01	.89	0.00-3.17	.83

Note. Org = Organizational; Rel = Religiosity

Table 4

Mean, Standard Deviation, Range, and Cronbach's Alpha by Gender

	Men (<i>n</i> = 49)				Women (<i>n</i> = 94)			
	<i>M</i>	<i>SD</i>	Range	Alpha	<i>M</i>	<i>SD</i>	Range	Alpha
Education	13.02	2.77	6.00-19.00	—	12.37	3.23	6.00-22.00	—
Perceived Health	3.07	.79	1.25-4.00	—	3.28	.90	1.00-5.00	—
Social Support	4.73	1.26	1.60-6.00	.85	4.74	1.52	1.00-6.00	.92
Personal Efficacy	2.49	.60	1.14-3.29	.78	2.60	.55	1.29-4.00	.62
Org Rel	1.79	.75	1.00-3.20	.83	1.84	.66	1.00-3.80	.75
Intrinsic Rel	2.03	.59	1.00-3.40	.85	2.27	.66	1.10-3.90	.84
Depression	1.01	.95	0.00-3.00	.82	1.53	.99	0.00-3.50	.83
Anxiety	.51	.40	0.00-1.60	.48	1.25	.83	0.00-3.67	.77

Note. Org = Organizational; Rel = Religiosity

displayed higher levels of education than Christians, $\chi^2(1, N = 143) = 5.71, p = .02$. There was no association between gender and age, $\chi^2(1, N = 143) = 1.40, p = .24$, education, $\chi^2(1, N = 143) = .03, p = .88$, or financial adequacy, $\chi^2(1, N = 142) = .21, p = .64$.

Pearson product moment correlations were calculated to identify salient control variables (See Table 5). Age was positively associated with financial adequacy ($r = .19, p < .05$), negatively associated with social support ($r = -.18, p < .05$), and positively associated with organizational religiosity ($r = .20, p < .05$). Being Christian was associated with lower levels of education ($r = -.21, p < .05$) and higher levels of intrinsic religiosity ($r = .34, p < .01$) than being Jewish. Education (years of formal schooling) was positively associated with higher levels of personal efficacy ($r = .27, p < .01$) but negatively associated with intrinsic religiosity ($r = -.22, p < .01$) and anxiety ($r = -.41, p < .01$). In terms of gender, being female was associated with higher levels of intrinsic religiosity ($r = .18, p < .05$), depression ($r = .25, p < .01$), and anxiety ($r = .45, p < .01$) than being male. Financial adequacy was positively associated with organizational religiosity ($r = .30, p < .01$). Perceived health was positively associated with personal efficacy ($r = .33, p < .01$) and organizational religiosity ($r = .30, p < .01$), but negatively associated with depression ($r = -.32, p < .01$) and anxiety ($r = -.28, p < .01$). Social support was positively associated with organizational religiosity ($r = .28, p < .01$) and intrinsic religiosity ($r = .16, p < .05$) but negatively associated with depression ($r = -.32, p < .01$) and anxiety ($r = .20, p < .05$). Personal efficacy was positively associated with organizational religiosity ($r = .30, p < .01$) but negatively associated with intrinsic religiosity ($r = -.21, p < .05$), depression ($r = -.33, p < .01$), and anxiety ($r = -.24, p < .01$). Organizational religiosity was negatively associated with anxiety ($r = -.21, p < .05$). Depression and anxiety were positively associated ($r = .47, p < .01$).

Table 5

Pearson Product Correlation Coefficients

	<u>Demographics</u>					<u>Resources</u>			<u>Religiousness</u>		<u>Distress</u>	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Age	—	-.13	.02	.10	.19*	.70	-.18*	.03	.20*	.07	-.04	.08
2. Religion(J = 0, C = 1)		—	-.05	-.21*	-.14	.06	-.13	-.15	-.01	.34**	.03	-.02
3. Gender(M = 0, F = 1)			—	-.10	-.09	.12	.01	.09	.03	.18*	.25**	.45**
4. Education (Years)				—	.11	.14	.04	.27**	.19*	-.22**	-.12	-.41**
5. Financial Adequacy					—	.09	.11	.16	.30**	-.15	.10	-.05
6. Perceived Health						—	.13	.33**	.30**	.01	-.32**	-.28**
7. Social Support							—	.13	.28**	.16*	-.32**	-.20*
8. Personal Efficacy								—	.30**	-.21*	-.33**	-.24**
9. Org Religiosity									—	.14	-.15	-.21**
10. Intrinsic Religiosity										—	-.16	.11
11. Depression											—	.47**
12. Anxiety												—

Note. J = Jewish; C = Christian; M = Male; F = Female; Org = Organizational

* $p < .05$; ** $p < .01$

Correlational analyses indicated significant relationships between psychological distress (depression and anxiety) and all control variables except age and perceived financial adequacy. Therefore, neither age nor financial adequacy was included in multivariate analyses.

In sum, preliminary analyses indicated the data used in this study did not violate the assumption of normality. Descriptive statistics were presented and the chi-square test of independence indicated that religious affiliation and gender were not associated. Neither religious affiliation nor gender was associated with age or financial adequacy. Religious affiliation was associated with education (Jews displayed higher levels of education than Christians) but gender was not related. Bivariate correlations indicated that being female was associated with higher levels of intrinsic religiosity and number of depression and anxiety symptoms than being male. Resource variables (i.e., perceived health, social support, personal efficacy) all displayed a negative association with depression and anxiety. Being Christian was associated with lower levels of education and higher levels of intrinsic religiosity than being Jewish. Organizational religiosity was positively associated with education, financial adequacy, perceived health, social support, and personal efficacy. Organizational religiosity was negatively associated with anxiety. Depression and anxiety displayed a strong positive association. These preliminary results provide support for study hypotheses and suggest that further analysis is required.

Primary Analysis

Hypotheses I. Hypothesis I suggested that Christians and Jews would display comparable levels of organizational religiosity, while Christians would display higher levels of intrinsic religiosity. This hypothesis was confirmed.

In order to address Hypothesis I, two linear regressions were completed to examine religious affiliation differences in organizational and intrinsic religiosity. Education, physical health, social support, personal efficacy, and psychological distress were included in step 1 as controls. As indicated in Table 6, there was no significant difference between Christians and Jews in their level of organizational religiosity ($p = .35$). However, as shown in Table 7, Christians displayed higher levels of intrinsic religiosity ($p < .001$, $t = 4.26$) than Jews after Dunn post-hoc correction ($\alpha = .05$, t -critical = 2.68).

Hypothesis II. Hypothesis II suggested that women would display higher levels of organizational and intrinsic religiosity than men. There was limited evidence to support this hypothesis. Table 6 reveals that, contrary to Hypothesis II, men and women did not differ in their level of organizational religiosity ($p = .57$). Women displayed higher levels of intrinsic religiosity than men ($p = .023$, $t = 2.29$). However, after Dunn post-hoc correction ($\alpha = .05$, t -critical = 2.68), there was no significant difference between men and women in intrinsic religiosity (See Table 7).

Hypothesis III. Hypothesis III predicted that there would be religious affiliation differences in number of depression and anxiety symptoms. It was predicted that Jews would display more symptoms of depression and anxiety than Christians. Contrary to our hypothesis, there was no difference between Christians and Jews in number of depression ($p = .82$) and anxiety ($p = .26$) symptoms.

Two linear regressions were completed to assess Hypothesis III as well as subsequent hypotheses and research questions. Demographics including religious affiliation, gender, and education were entered in step 1. In step 2 resources were entered including perceived health,

Table 6

Linear Regression Predicting Organizational Religiosity from Religious Affiliation and Gender

	Step 1			Step 2		
	<i>B</i>	<i>SEb</i>	β	<i>B</i>	<i>SEb</i>	β
Education	.02	.48	.09	.03	.02	.11
Physical Health	.13	.07	.16	.12	.07	.16
Social Support	.10*	.04	.20	.10*	.04	.20
Personal Efficacy	.17	.11	.14	.17	.11	.14
Psychological Distress	-.15	.12	-.12	-.16	.13	-.13
Religion (J = 0, C = 1)				.10	.11	.07
Gender (M = 0, F = 1)				.07	.12	.05
ΔR^2				.01		
R^2		.20***		.21***		

Note. J = Jewish; C = Christian; M = Male; F = Female

Significance values reflect Dunn post-hoc correction for multiple comparisons

* $p < .10$; ** $p < .05$; *** $p < .01$

Table 7

Linear Regression Predicting Intrinsic Religiosity from Religious Affiliation and Gender

	Step 1			Step 2		
	<i>B</i>	<i>SEb</i>	β	<i>B</i>	<i>SEb</i>	β
Education	-.04	.02	-.17	-.02	.02	-.09
Physical Health	.07	.07	.09	.05	.07	.06
Social Support	.09*	.04	.20	.11**	.04	.24
Personal Efficacy	-.23	.10	-.21	-.23	.10	-.20
Psychological Distress	.06	.12	.05	.03	.12	.02
Religion (J = 0, C = 1)				.43***	.10	.33
Gender (M = 0, F = 1)				.25	.11	.19
ΔR^2				.13		
R^2			.12**			.25***

Note. J = Jewish; C = Christian; M = Male; F = Female

Significance values reflect Dunn post-hoc correction for multiple comparisons

* $p < .10$; ** $p < .05$; *** $p < .01$

social support, and personal efficacy. In step 3, religiosity variables and interaction terms were entered. In Table 8, the analysis reveals no difference between Christians and Jews in number of depression symptoms ($p = .82$). Likewise, in Table 9, the analysis reveals no difference between Christians and Jews in number of anxiety symptoms ($p = .26$).

Hypothesis IV. Hypothesis IV predicted that women would report a higher number of depression and anxiety symptoms than men. This hypothesis was confirmed. Table 8 indicates that women reported more symptoms of depression than men ($p < .01$, $t = 4.14$) after Dunn post-hoc correction ($\alpha = .05$, t -critical = 2.93). Likewise, Table 9 indicates that women reported more symptoms of anxiety than men ($p = .001$, $t = 5.85$) after Dunn post-hoc correction ($\alpha = .05$, t -critical = 2.63).

Hypothesis V. Hypothesis V suggested that organizational and intrinsic religiosity would be inversely associated with number of depression and anxiety symptoms. Contrary to our hypothesis, higher levels of organizational religiosity were associated with a higher number of depression (non-adjusted test only) and anxiety (both non-adjusted and adjusted tests) symptoms. There was no association between intrinsic religiosity and number of depression and anxiety symptoms.

Non-adjusted tests indicated that higher levels of organizational religiosity were associated with a higher number of depression symptoms ($p < .05$, $t = 2.22$). However, after Dunn post-hoc correction ($\alpha = .10$, t -critical = 2.70) there was no association between organizational religiosity and depression symptoms (See Table 8). There was no association between intrinsic religiosity and number of depression symptoms ($p = .25$). Table 9 indicates that higher levels of organizational religiosity were associated with a higher number of anxiety

Table 8

Linear Regression Predicting Depression from Organizational and Intrinsic Religiosity

	Step 1			Step 2			Step 3		
ΔR^2				.24			.13		
R^2	.07*			.31***			.43***		
	<i>B</i>	<i>SEb</i>	β	<i>B</i>	<i>SEb</i>	β	<i>B</i>	<i>SEb</i>	β
Religion (J = 0, C = 1)	.04	.17	.02	-.08	.15	-.04	.02	.15	-.01
Gender (M = 0, F = 1)	.50	.17	.24	.63	.15	.30***	.79	.15	.38***
Education	-.03	.03	.09	.00	.03	.01	-.01	.02	-.00
Perceived Health				-.28	.09	-.24***	-.26	.09	-.23**
Social Support				-.19	.05	-.27***	-.15	.05	-.22**
Personal Efficacy				-.44	.14	-.25	-.63	.14	-.36***
Org Religiosity							1.08	.49	.74
Intrinsic Religiosity							.73	.63	.46
Religion x Org Religiosity							.63	.22	.72*
Gender x Org Religiosity							-.09	.21	-.11
Religion x Int Religiosity							.40	.25	.42
Gender x Int Religiosity							.27	.26	.30

Note. M = Male; F = Female; J = Jewish; C = Christian; Org = Organizational; Int = Intrinsic

Significance values reflect Dunn post-hoc correction for multiple comparisons

* $p < .10$; ** $p < .05$; *** $p < .01$

Table 9

Linear Regression Predicting Anxiety from Organizational and Intrinsic Religiosity

	Step 1			Step 2			Step 3		
ΔR^2				.12			.07		
R^2	.34***			.46***			.53***		
	<i>B</i>	<i>SEb</i>	β	<i>B</i>	<i>SEb</i>	β	<i>B</i>	<i>SEb</i>	β
Religion (J = 0, C = 1)	-.13	.11	-.08	-.18	.10	-.12	-.16	.11	-.10
Gender (M = 0, F = 1)	.68	.12	.41***	.75	.11	.45***	.74	.11	.45***
Education	-.10	.02	-.38***	-.08	.02	-.21***	-.08	.02	-.33***
Perceived Health				-.22	.07	-.24***	-.21	.06	-.23**
Social Support				-.09	.04	-.16*	-.10	.04	-.19*
Personal Efficacy				-.15	.10	-.11	-.15	.10	-.10
Org Religiosity							1.01	.35	.88*
Intrinsic Religiosity							.39	.45	.31
Religion x Org Religiosity							.10	.16	.15
Gender x Org Religiosity							.51	.15	.75**
Religion x Int Religiosity							.43	.18	.57
Gender x Int Religiosity							-.21	.19	.30

Note. M = Male; F = Female; J = Jewish; C = Christian; Org = Organizational; Int = Intrinsic
Significance values reflect Dunn post-hoc correction for multiple comparisons

* $p < .10$; ** $p < .05$; *** $p < .01$

symptoms ($p < .01$, $t = 2.85$) after Dunn post-hoc correction ($\alpha = .10$, t -critical = 2.70). There was no association between intrinsic religiosity and number of anxiety symptoms ($p = .40$).

Research Question I. Research Question I explored whether or not the relationship between organizational religiosity and number of depression and anxiety symptoms would vary based upon religious affiliation. Likewise, Research Question 1 also explored whether or not the association between intrinsic religiosity and number of depression and anxiety symptoms would vary based upon religious affiliation. Prior research suggests that Christians will display a positive association between the personal and spiritual aspects of religiosity and mental health (Cohen, 2002) while Jews will not. On the other hand, both groups have displayed an association between the public practice of religiousness and better mental health.

Depression. Table 8 indicates a significant interaction between religious affiliation and organizational religiosity ($p < .01$, $t = 2.87$) after Dunn post-hoc correction ($\alpha = .10$, t -critical = 2.70). Higher levels of organizational religiosity were associated with a higher number of symptoms of depression among Jews than Christians. On the other hand, lower levels of organizational religiosity were associated with a higher number of depression symptoms among Christians than Jews (See Figure 1). The relationship between intrinsic religiosity and number of depression symptoms did not vary based upon religious affiliation ($p = .11$).

Anxiety. Table 9 indicates that the relationship between organizational religiosity and anxiety symptoms did not vary based upon religious affiliation ($p = .51$). There was an interaction effect between religious affiliation and intrinsic religiosity in association with anxiety symptoms ($p < .05$, $t = 2.37$) before Dunn post-hoc correction ($\alpha = .10$, t -critical = 2.70). Higher levels of intrinsic religiosity were associated with a higher number of anxiety symptoms

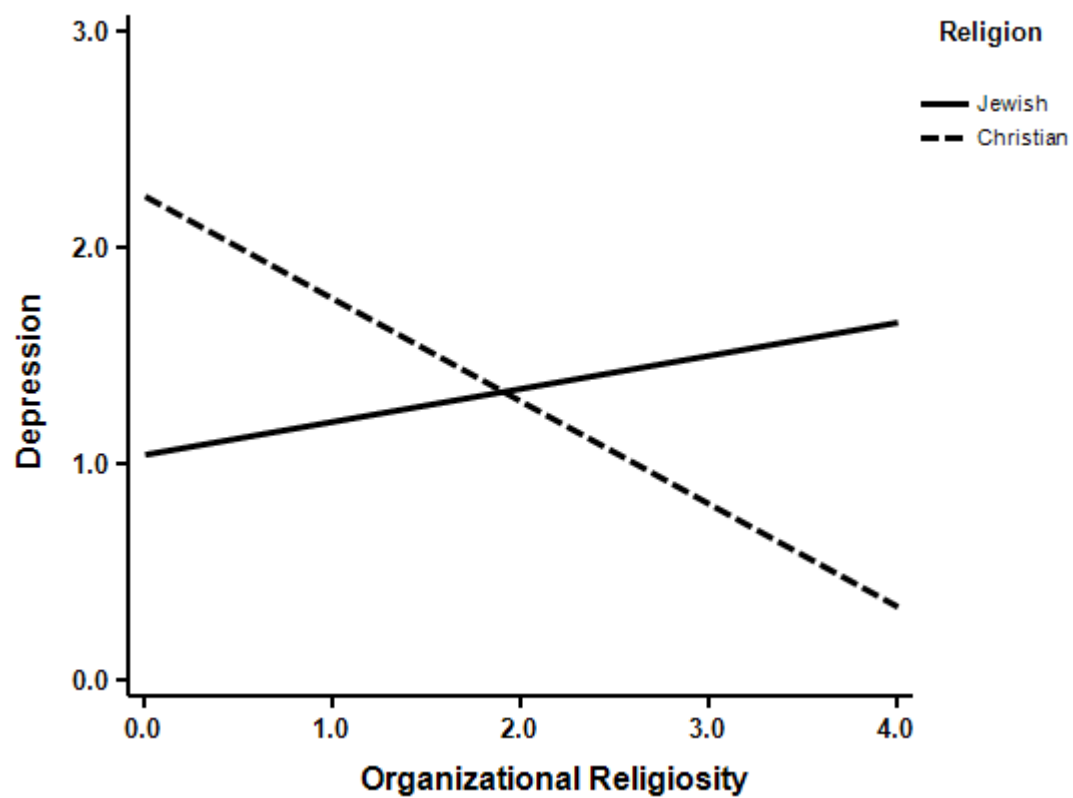


Figure 1. Relationship between organizational religiosity and depression symptoms for Christians and Jews

among Jews than Christians. On the other hand, lower levels of intrinsic religiosity were associated with a higher number of anxiety symptoms for Christians than Jews.

Research Question II. Research Question II explored whether the relationship between religiousness and the number of depression and anxiety symptoms varies based upon gender. There is evidence that the association between organizational religiosity, and lower depression and better well-being is stronger for older men than older women (McFarland, 2009). Research exploring how the relationship between intrinsic religiosity and mental health varies by gender has yielded mixed results. However, no study has yet explored the gender x intrinsic religiosity interaction effect on mental health among older adults.

Depression. Table 8 indicates that the relationship between organizational religiosity and the number of depression symptoms did not vary by gender ($p = .66$). Likewise, the relationship between intrinsic religiosity and number of depression symptoms did not vary by gender ($p = .30$).

Anxiety. Table 9 reveals an interaction between gender and organizational religiosity. Lower levels of organizational religiosity were associated with a higher number of anxiety symptoms among women than men ($p < .01$, $t = 3.37$) after Dunn post-hoc correction ($\alpha = .10$, t -critical = 2.70). At higher levels of organizational religiosity, men and women did not differ in number of anxiety symptoms (See Figure 2). The relationship between intrinsic religiosity and number of anxiety symptoms did not vary by gender ($p = .26$).

Supplemental Analyses Examining Clinical Depression and Anxiety

To further address hypotheses and research questions related to psychological distress (Hypotheses III, IV, V, and Research Questions I and II), logistic regression analysis was completed to assess risk for clinical depression and anxiety. Logistic analysis is desirable

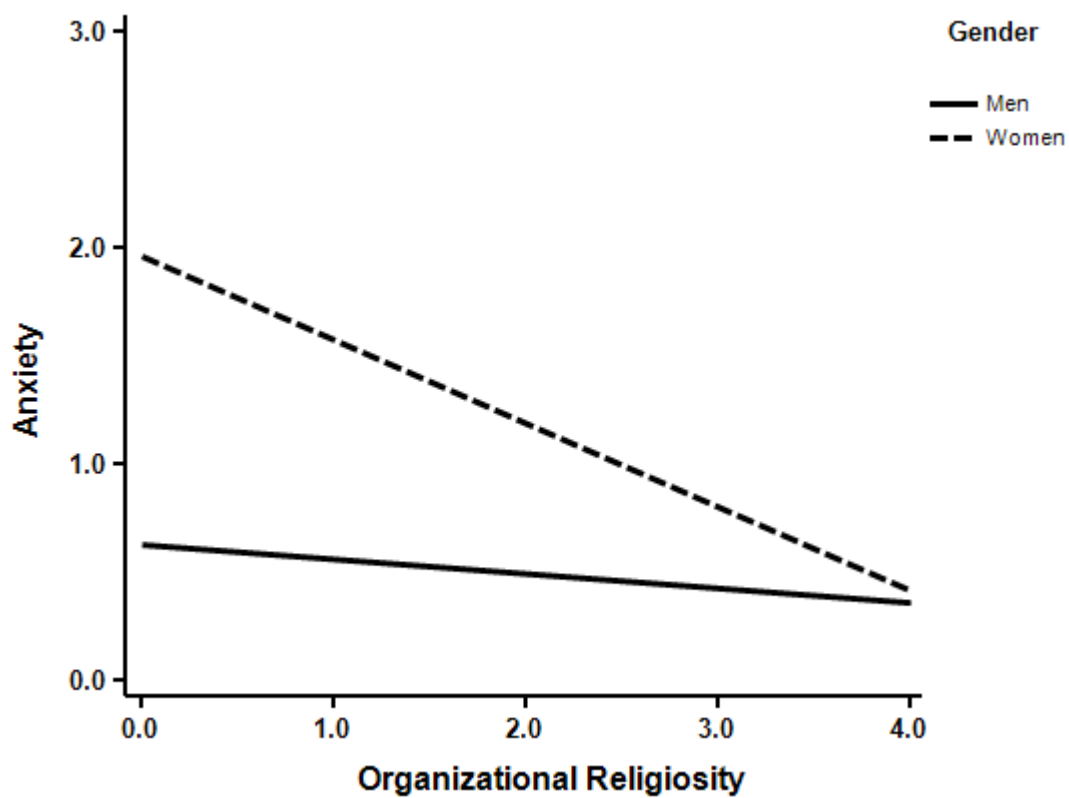


Figure 2. Relationship between organizational religiosity and anxiety symptoms for men and women

because it captures clinically significant depression and anxiety which cannot be examined when outcome variables remain continuous. While linear analysis assesses participants' number of symptoms, logistic analysis captures whether or not participants differentially meet criteria for a disorder. Although scores falling into separate groups may be close in value (e.g., if the cutoff for clinical depression is 1.0, scores of .9 and 1.1 will fall into different groups), the distinction is valid when examining a sample of scores. Therefore, logistic analysis was deemed appropriate because of the meaningful difference between clinical and non-clinical distress and in the interest of obtaining a more complete picture of participants' mental health. Logistic regression was completed using the same steps as the linear regression analyses.

Symptoms of depression and anxiety were dichotomized (0 = not depressed/anxious, 1 = depressed/anxious). For men, a *T* score of 63 (the clinical cutoff) was equal to a raw score of 1.08 on the depression scale and .81 on the anxiety scale. For women, a *T* score of 63 was equal to a raw score of 1.30 on the depression scale and 1.19 on the anxiety scale. See Table 10 for the frequency of clinical depression and anxiety by religious affiliation and gender.

Logistic regression analysis will be interpreted by examining each predictor's regression coefficient and odds ratio. Odds ratios (OR) assess the relative risk associated with each variable falling above the clinical cutoff. Odds ratios are calculated by dividing the probability a positive outcome by the probability of a negative outcome. In this case, a positive outcome indicates that a participant's number of symptoms eclipse the clinical cutoff on the depression or anxiety scales. On the other hand, a negative outcome indicates non-clinical levels of depression or anxiety. For categorical variables (e.g., religious affiliation and gender), the odds ratio is the predicted change in odds of a positive outcome in one group compared to another. For continuous variables, the odds ratio is the predicted change in odds of a positive outcome per

Table 10

Frequency of Clinical Depression and Anxiety by Religious Affiliation and Gender

Outcome Variable	Religious Affiliation		Gender	
	Jewish (<i>n</i> = 69)	Christian (<i>n</i> = 74)	Male (<i>n</i> = 49)	Female (<i>n</i> = 94)
BSI Depression Cutoff	—	—	1.08	1.30
Not Depressed				
<i>n</i> = 65 (45.45%)	38(55.07%)	27(36.49%)	28(57.14%)	37(39.36%)
Depressed				
<i>n</i> = 78 (54.55%)	31(44.93%)	47(63.51%)	21(42.86%)	57(60.64%)
BSI Anxiety Cutoff	—	—	.81	1.19
Not Anxious				
<i>n</i> = 78 (54.55%)	34(49.28%)	44(59.50%)	33(67.35%)	45(47.87%)
Anxious				
<i>n</i> = 65 (45.45%)	35(50.73%)	30(40.54%)	16(32.65%)	49(52.13%)

unit increase on the variable's scale. In this study, when odds ratios are less than 1, steeper regression coefficients correspond to a decreased risk of clinical depression or anxiety.

Predictors with odds ratios under 1 always have negative regression coefficients. On the other hand, when odds ratios are greater than 1, steeper regression coefficients correspond to an increased risk of clinical depression and anxiety. Predictors with odds ratios over 1 always have positive regression coefficients. Logistic regression analysis also yields confidence intervals. When the confidence interval falls below 1, it indicates a lower chance of a positive case (i.e., decreased vulnerability). On the other hand, when the confidence interval falls above 1, it indicates a higher chance of a positive outcome (i.e., increased vulnerability).

The Bonferroni post-hoc correction (Rice, 1989) was used to control for multiple comparisons in logistic regression. This correction divides the alpha level by the number of significance tests in the analyses in order to derive a more stringent standard for statistical significance. For instance, the final step of logistic regression analysis includes 12 significance tests. Therefore, $\alpha = .05/12 = .004$.

Hypothesis III. There was a main effect for religious affiliation on clinical depression that trended toward significance ($p = .057$) prior to Bonferroni post-hoc correction ($\alpha = .016$). Contrary to our hypothesis, Christians were nearly twice as likely to fall above the clinical cutoff for depression as Jews (OR = 1.98, 95% CI = .98 – 4.01). The 95% confidence interval indicates that the risk for clinical depression among Christians may be as much as four times that of the Jews in this study (See Table 11).

Consistent with Hypothesis III, there was a main effect for religious affiliation on clinical anxiety ($p < .01$; See Table 12) after Bonferroni post-hoc correction ($\alpha = .008$). Christians were 74% less likely than Jews to fall above the clinical cutoff for anxiety (OR = .26, 95% CI = .10 –

Table 11

Logistic Regression Predicting Clinical Depression from Organizational and Intrinsic Religiosity

Step	Predictor	Model 1			Model 2			Model 3		
		Demographics			Demographics and Resources			Religiosity and Interactions		
		<i>B</i>	Wald	OR	<i>B</i>	Wald	OR	<i>B</i>	Wald	OR
1	Religion (J = 0, C = 1)	.68	3.61	1.98	.64	2.21	1.89	1.11	3.66	2.90
	Gender (M = 0, F = 1)	.73	3.79	2.07	1.27**	7.71	3.58	2.50**	12.01	12.14
	Education	-.12	4.11	.88	-.06	.59	.95	-.06	.38	.94
2	Perceived Health				-.97***	13.77	.38	-1.21***	11.19	.30
	Social Support				-.42**	7.40	.66	-.34	3.32	.71
	Personal Efficacy				-1.01	6.02	.36	-2.21**	11.93	.11
3	Org Religiosity							2.45	1.52	11.53
	Intrinsic Religiosity							.60	.05	.83
	Religion x Org Religiosity							3.39***	12.56	29.80
	Gender x Org Religiosity							-1.91	3.15	.15
	Religion x Int Religiosity							.46	.22	1.56
	Gender x Int Religiosity							.90	.59	2.46
	χ^2, df, p	14.06, 3, $p = .003$			39.29, 3, $p < .001$			35.83, 6, $p < .001$		

Note. OR = odds ratio; M = Male; F = Female; J = Jewish; C = Christian; Org = Organizational; Int = Intrinsic

Significance values reflect Bonferroni correction for multiple comparisons

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 12

Logistic Regression Predicting Clinical Anxiety from Organizational and Intrinsic Religiosity

Step	Predictor	Model 1			Model 2			Model 3		
		Demographics			Demographics and Resources			Religiosity and Interactions		
		<i>B</i>	Wald	OR	<i>B</i>	Wald	OR	<i>B</i>	Wald	OR
1	Religion (J = 0, C = 1)	.74	3.83	.48	-1.36**	8.23	.26	-1.60	7.86	.20
	Gender (M = 0, F = 1)	.68	3.08	1.97	1.19	6.42	3.27	2.03**	10.48	7.61
	Education	-.24***	13.01	.78	-.24**	8.46	.79	-.31**	9.14	.74
2	Perceived Health				-.77**	7.49	.46	-1.00	8.40	.37
	Social Support				-.53**	10.36	.59	-.66**	10.36	.52
	Personal Efficacy				-1.06	6.57	.35	-1.06	4.42	.35
3	Org Religiosity							1.26	.56	3.52
	Intrinsic Religiosity							-4.27	3.04	.01
	Religion x Org Religiosity							1.31	2.85	3.72
	Gender x Org Religiosity							-.39	.21	.68
	Religion x Int Religiosity							.16	.03	1.18
	Gender x Int Religiosity							-2.54	5.99	.08
	χ^2 , <i>df</i> , <i>p</i>	21.68, 3, <i>p</i> < .001			38.05, 3, <i>p</i> < .001			12.90, 6, <i>p</i> = .045		

Note. OR = odds ratio; M = Male; F = Female; J = Jewish; C = Christian; Org = Organizational; Int = Intrinsic
Significance values reflect Bonferroni correction for multiple comparisons

p* < .05; ** *p* < .01; * *p* < .001

.65). The 95% confidence interval indicates that Christians may be as much as 90% less likely to experience clinical anxiety than Jews in this sample.

Hypothesis IV. As predicted, there was a main effect for gender on clinical depression ($p < .01$; See Table 11) after Bonferroni post-hoc correction ($\alpha = .008$). This finding should be interpreted with caution because the addition of predictors in step 2 may have detracted from the variance accounted for by religion and education variables. Nevertheless, women were nearly four times as likely as men to fall above the clinical cutoff for clinical depression (OR = 3.58, 95% CI = 1.45 – 8.79). The 95% confidence interval indicates that the risk for clinical depression associated with being female could be as high as eightfold that of men in this study.

As predicted, there was a main effect for gender on clinical anxiety in step 3 of the model ($p = .001$; See Table 12) after Bonferroni post-hoc correction ($\alpha = .004$). Once again, this finding should be interpreted with caution because the addition of predictors in step 3 may have detracted from the variance accounted for by demographic and resource variables. Women were nearly eight times as likely as men to fall above the clinical cutoff for anxiety (OR = 7.61, 95% CI = 2.23 – 26.01). The 95% confidence interval indicates that the higher risk for clinical anxiety associated with being female could be as high as twenty six-fold that of men in this sample.

Hypothesis V. Supplemental analysis did not indicate a main effect for religiosity on clinical depression. Neither organizational religiosity ($p = .22$) nor intrinsic religiosity ($p = .83$) was associated with clinical depression in this sample. Likewise, there was no association between organizational religiosity and clinical anxiety. However, there was a trend toward significance for the association between intrinsic religiosity clinical anxiety ($p = .08$) prior to Bonferroni post-hoc correction ($\alpha = .004$). For every one point increase on the intrinsic

religiosity scale, participants were 99% (OR = .01, 95% CI = .00 – 1.70) less likely to fall below the cutoff for clinical anxiety (See Table 12).

Research Question I. Contrary to expectations, there was an interaction between religion and organizational religiosity for clinical depression ($p < .001$; See Figure 3) after Bonferroni post-hoc correction ($\alpha = .004$). For every one point increase on the organizational religiosity scale, Jews were nearly thirty times more likely to fall above the clinical cutoff for depression than Christians (OR = 29.80, 95% CI = 4.56 – 194.74). On the other hand, as values on the organizational religiosity scale decrease, Christians are more likely to fall above the clinical cutoff for depression than Jews (See Table 11). The association between intrinsic religiosity and clinical depression did not vary by religious affiliation ($p = .64$).

There was an interaction between religious affiliation and organizational religiosity for clinical anxiety that trended toward significance ($p = .091$) prior to Bonferroni post-hoc correction ($\alpha = .004$). For every one point increase on the organizational religiosity scale, Jews were nearly four times as likely (OR = 3.72, 95% CI = .81 – 17.10) to fall above the clinical cutoff for anxiety than Christians (See Table 12). The association between intrinsic religiosity and clinical anxiety did not vary by religious affiliation ($p = .86$).

Research Question II. Consistent with expectations, there was an interaction between gender and organizational religiosity on clinical depression that trended toward significance ($p = .076$) prior to Bonferroni post-hoc correction ($\alpha = .004$). For every one point increase on the organizational religiosity scale, men were 85% (OR = .15, 95% CI = .02 – 1.22) less likely to be depressed than women (See Table 11). The association between intrinsic religiosity and clinical depression did not vary by gender ($p = .44$).

The association between organizational religiosity and clinical anxiety did not vary by

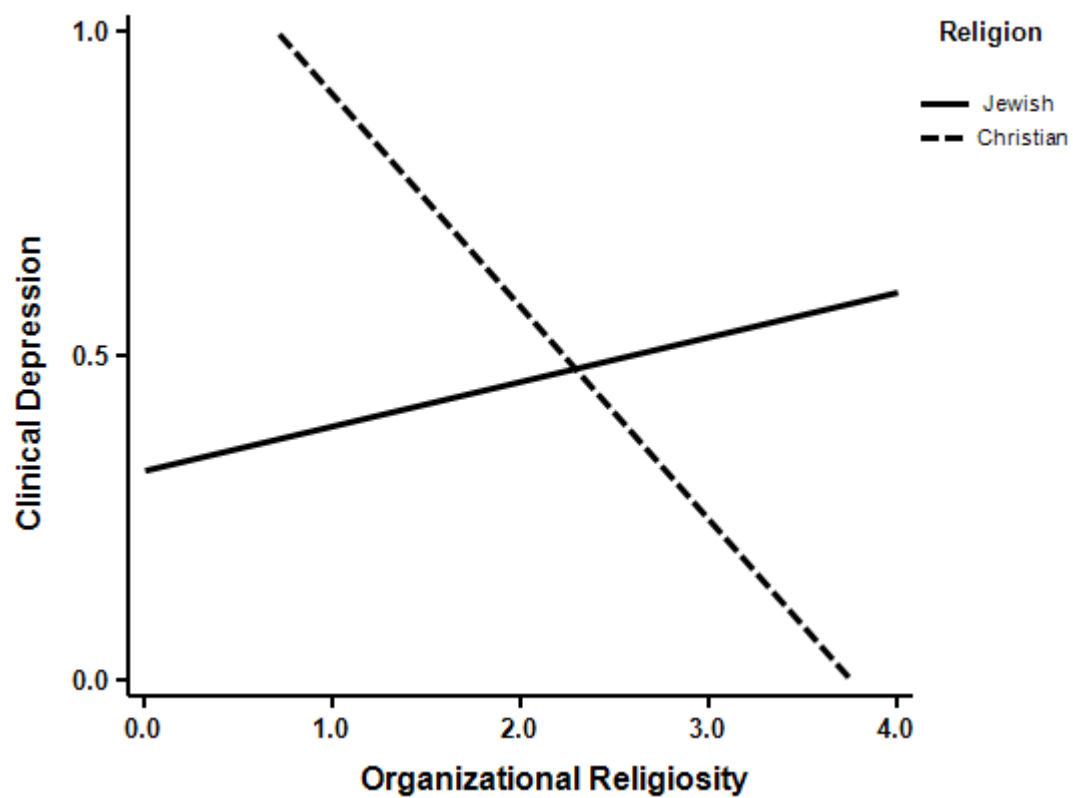


Figure 3. Relationship between organizational religiosity and risk for clinical depression for Christians and Jews

gender ($p = .65$). There was an interaction between gender and intrinsic religiosity ($p < .05$) that was significant prior to Bonferroni post-hoc correction ($\alpha = .004$). For every one point increase on the intrinsic religiosity scale men were 92% ($OR = .08$, 95% $CI = .01 - .60$) less likely to be clinically anxious than women (See Table 12).

Summary

Hypothesis I was confirmed in the present analysis. Christians reported higher levels of intrinsic religiosity, but not of organizational religiosity when compared to Jews. There was some evidence to support Hypothesis II. Women reported higher levels of intrinsic religiosity than men prior to post-hoc adjustment, but not of organizational religiosity. For Hypotheses III, linear regression analysis indicated no difference between Christians and Jews in number of depression and anxiety symptoms. However, supplemental logistic regression analysis revealed that Christians' risk for clinical anxiety was less than half that of Jews. Hypothesis IV was confirmed. Women reported a higher number of both depression and anxiety than did men, at both symptom and clinical levels. There was no evidence to support Hypothesis V. In fact, analyses revealed an association in the opposite direction. Higher levels of organizational religiosity were associated with a higher number of anxiety symptoms.

For Research Question I, results suggest that higher organizational religiosity is associated with fewer depression symptoms and lower risk for clinical depression for Christians than Jews. Higher levels of organizational religiosity were associated with a higher number of depression symptoms for Jews than for Christians while the opposite pattern emerged at lower levels of organizational religiosity. Logistic regression results were consistent with linear analysis. The association between higher levels of organizational religiosity and risk for clinical depression was higher for Jews than for Christians.

For Research Question II, one significant interaction emerged after post-hoc analysis. Linear analysis indicated that lower levels of organizational religiosity were associated with a higher number of anxiety symptoms for women than men, while men and women did not differ in anxiety symptoms at higher levels organizational religiosity. In logistic analysis, there were trends towards significance showing that higher levels of religiousness were associated with increased risk of clinical depression and anxiety for women while there was no difference in risk between men and women at lower levels of organizational religiosity. However, these findings no longer approached significance after post-hoc corrections.

Finally, in the model as a whole, demographics (gender, religion, and education) and resource variables (perceived health, social support, and personal efficacy) tended to account for a greater amount of variance in depression and anxiety than religiosity variables and interaction terms. This was true in both the linear and the logistic analyses.

Chapter V

DISCUSSION

The purpose of this study was to examine how the association between religiousness and psychological distress varies by religious affiliation and gender. Only one study has explored how the association between religiousness and mental health varies between Christians and Jews and no prior work has explored this question using a sample of older adults. There has been prior research exploring how the relationship between religiousness and mental health varies by gender but the results have been inconsistent. That is, in some cases women higher in religiousness were found to have better mental health and in others, men higher in religiousness had better mental health. This study sought to further our understanding of how organizational and intrinsic religiosity are associated with mental health in late life for men as opposed to women.

In the following sections, the findings of this study are discussed in the context of the hypotheses and research questions presented earlier in this dissertation. The results of this study are contrasted with prior work in the same area. Alternative explanations are presented for the significant findings, and potential explanations for the null results are explored. The study concludes with a discussion of its limitations, implications, and suggestions about future research.

Religion and Religiousness

Hypothesis I predicted that there would be religious affiliation differences in level of intrinsic religiosity but not in organizational religiosity. More specifically, it was predicted that Christians would display higher levels of intrinsic religiosity than Jews, but that these two groups would not differ in their level of organizational religiosity. This hypothesis was confirmed.

Both Christianity and Judaism place a strong emphasis on participation in religious services and events. Morris (1996) notes that both assent (as in Christianity) and descent religions (as in Judaism) facilitate community. While Judaism is a descent religion based upon common ethnicity and Christianity an assent religion which determines membership through shared beliefs, both traditions require participation in religious services. For Jews, religious services provide social connectedness which is facilitated through ritual and an emphasis on Jewish history. On the other hand, Christian services solidify membership through statements of shared beliefs. Catholics, for instance, recite a *Profession of Faith* during mass which affirms members' belief in Jesus, the Trinity, and other points of theology. Despite differences in the content of Christian and Jewish services, religious participation is vital for both faiths.

In addition to attendance at services, both Christianity and Judaism provide members the opportunity to join Church or Synagogue sponsored organizations and initiatives. Jews may engage in social activism or other charity work through their local Synagogue or Jewish Federation. Among other initiatives, The Jewish Federation advocates for the people of Darfur and other vulnerable populations throughout the world. Likewise, Christian churches offer members the opportunity to participate in ancillary groups. For instance, the St. Vincent de Paul Society is a Catholic organization devoted to helping those in need such as the poor and victims of natural disasters. It is also common for churches and synagogues alike to hold gatherings for its members which provide further opportunity for participation and fellowship.

While Christians and Jews were not herein found to differ in level of organizational religiosity, as predicted, Christians displayed higher levels of intrinsic religiosity than Jews. This suggests that Christians tend to draw upon religion more in their daily lives, look to God when making decisions, and use their religious beliefs to guide their actions more so than do Jews.

Christianity's emphasis on beliefs, which are often recited at weekly services, may engender a personal relationship with God for members to draw upon. Catholic psychoanalyst Ana-Maria Rizzuto (2004) suggests that Catholics develop an internal representation of God that is often called to mind in times of difficulty. From a psychodynamic perspective, God becomes an internalized object with whom Catholics feel personally connected. As a result, Christians may carry over their religion and connection with God into other parts of their life more so than Jews.

While Judaism includes some core beliefs, the exact nature of those beliefs is not agreed upon. Maimonides (12th Century/1967) provides 13 principles of faith, among them, a belief in God, that God is one, that God is not physical, and that it is proper to serve God. However, because Jewish authorities do not pinpoint the exact nature of God or how best to know Him and serve Him, these points remain the topic of debate in Jewish communities. Collective agreement is always resisted (Morris, 1996). As God's true qualities are always in question, Jews tend not to attribute human qualities to God, making religion less likely to inform decision making and day-to-day behavior. Intrinsic religiosity may well be higher among Orthodox Jews than the non-Orthodox; however, very few Orthodox Jews participated in this study.

Gender and Religiousness

Hypothesis II predicted that there would be gender differences in religiousness such that women would display higher levels of organizational and intrinsic religiosity than men. There was limited evidence to support this hypothesis. Women displayed higher levels of intrinsic religiosity than men (prior to post-hoc correction) but not higher levels of organizational religiosity. After Dunn post-hoc correction for multiple comparisons, women and men displayed comparable levels of intrinsic religiosity.

Prior work has shown that women tend to be more organizationally religious than do men (See Francis, 1997 for a review). Francis suggests that theories explaining gender differences in religiousness can be divided into two categories: (1) social and contextual factors and (2) individual psychological characteristics. The first group of theories suggests that gender role socialization and the relative position of men and women in familial and social structures account for higher levels of increased religiousness in women. The second group of theories suggests that psychological differences such as personality and gender orientation lead to gender differences in religiousness. Women tend to be more socially orientated than men (Eagly & Crowley, 1986; Gilligan, 1982) and may therefore be more likely to build and maintain relationships through religious membership (Idler, 1987).

In this sample, however, men and women did not differ in their level of organizational religiosity. How are we to account for this null finding? McFarland (2009) suggests that men may seek out activities and organizations after retirement which offer them personal fulfillment. Therefore, one explanation is that men become increasingly involved in religious organizations as they age because they have more time and need for formal organizational affiliation and participation. Religious organizations may fill a gap left by men's former career endeavors. A complementary explanation may be that women may become less involved in religious organizations later in life. Women are often responsible for maintaining a family's social connectedness within a place of worship, relationships with clergy, and the friendships developed in a formal religious setting (Idler, 1987; Koenig, 1984). In late life, women may transfer part of this responsibility to their husbands as they become more religiously involved.

There was modest evidence that women in the current sample were higher in intrinsic religiosity than older men, although gender differences in intrinsic religiosity were no longer

significant after post-hoc adjustment. Nevertheless, the initial finding is consistent with prior research (Milevsky & Levitt, 2004) and warrants discussion.

This difference may have both social and psychological roots. Women's need for social connectedness may predispose them to seek counsel from others more readily than men. Likewise, women may more actively petition God for guidance, seeking help and support from God just as they would a trusted friend. On the other hand, men are less likely to seek help than women and may prefer to make decisions independently (Addis & Mahalik, 2003).

Men may also avoid expressions of intrinsic religiosity because such behaviors are inconsistent with social gender role expectations. The internal experience of religiousness (e.g., feeling close to God) is often considered a feminine trait (Zock, 1997) and men reporting higher levels of religiousness also score higher on scales of femininity (Francis & Wilcox, 1996). Because men are socialized to avoid behaviors that may be perceived as feminine (Levant & Pollack, 1995), they may be reluctant to develop a personal relationship with God. Empirical work has provided further evidence of this association. In a sample of 151 Catholic undergraduates and seminarians, Mahalik and Lagan (2001) found that men with more traditional views of gender roles and masculinity were lower in intrinsic religiosity.

Gender differences in risk aversion provide another explanation of differences between men and women in intrinsic religiosity. Men display more risky behaviors than women (Gottfredson & Hirschi, 1990) while women place a higher value on stability and security. Miller and Hoffman (1995) note that religion provides an existential risk management strategy which helps people address questions of meaning, the uncertainties of death, and a desire for understanding and control. Living their religion daily may lend meaning and understanding to day-to-day activities for women. By frequently seeking God's guidance, women may feel they

are doing God's will, which increases their sense of security and control. Both Judaism and Christianity ascribe to the belief that God will punish those who do not obey His law. The threat of punishment from God is omnipresent in the Torah/Old Testament. As Maimonides (12th Century/1967) declared, "God rewards those who uphold His laws and punishes those who violate them."

Religion and Psychological Distress

Hypothesis III predicted that Christians and Jews would display differences in psychological distress. It was predicted that Jews would display a higher number of symptoms of depression and anxiety. In the primary analyses, there was no evidence to support this hypothesis. In the supplemental analyses, the hypothesis was partially supported. Jews displayed higher risk for clinical anxiety than Christians after post-hoc correction. Christians' risk for clinical anxiety was less than half that of Jews. On the whole, however, evidence for Hypothesis III is tenuous. The following discussion offers potential explanations for the limited findings and explores possible reasons for the existence of religious affiliation differences at clinical levels anxiety.

This sample's unique characteristics may in part explain the relatively weak findings. Participants were referred to this study because they seemed more distressed than before, and in many cases had recently gone through a transition, such as the death of a spouse, or other loss. It may be a result of this kind of circumstance that this sample displays a high number of depression and anxiety symptoms and high rates of clinical depression and anxiety. The relatively high level of distress across this sample may thus have diluted depression and anxiety differences between Christians and Jews.

Differences between Christians and Jews in clinical anxiety but not the continuous variables derived from number of symptoms suggest that group differences are apparent only at

higher degrees of psychological distress. Numerous studies have shown that Jews have higher rates of depression than Christians in clinical samples (Cooklin, Ravindran, & Carney, 1983; Flics, 1991; Malzberg, 1973). Less is known regarding Christian-Jewish differences in anxiety; however, given the high comorbidity of depression and anxiety (Gorman, 1997) it was predicted that Jews would display higher rates of anxiety than Christians. In the current study, Christians were less than half as likely to fall above the cutoff for clinical anxiety as were Jews.

One potential explanation involves the circumstances during which this generation came of age. All participants in this study were born before World War II, between 1905 and 1934. Jewish participants growing up in this era likely experienced significant personal trauma as European Jews were systematically exterminated between 1941 and 1945. They may have lost parents, relatives, or family friends in the Holocaust or may have been Holocaust survivors themselves. At the very least, these Jewish people were keenly aware of anti-Semitism both abroad and in the United States in the 1930s and 1940s. Wex (2005) notes that Jews may experience lower well-being when they perceive themselves as part of a persecuted minority. While Christian participants may have served or lost family or friends in World War II, they were not confronted with the genocide of one's own people as were Jews. Prior research has shown that trauma in early life and young adulthood increases the likelihood of anxiety later in life (Bremner, Southwick, Johnson, Yehuda, & Charney, 1993; Kishon-Barash, Midlarsky, & Johnson, 1999).

Another explanation for elevated risk of clinical anxiety among Jews involves Jewish teaching regarding the afterlife. Judaism includes a variety of teachings regarding life after death such as hell, living on through one's children or the Jewish community as a whole, and reincarnation (Lamm, 2000; Raphael, 1996). On the other hand, Christian teachings on the

afterlife are definitive. As a result, Christians more often believe in life after death than do Jews (Dixon & Kinlaw, 1982-1983; Klenow & Bolin, 1989-1990; Zedek, 1998). In a recent study, Cohen and Hall (2009) found that older Jews were not only less likely to believe in the afterlife than Christians but that they also displayed higher death anxiety. Death anxiety has been linked to clinical manifestations of anxiety in adults with serious physical illness (Addelbratt & Strang, 2000; Conte, Weiner, & Plutchik, 1982; Safren, Gershuny, & Hendriksen, 2003). It is possible that the variety of teachings Judaism provides regarding life after death may lead to uncertainty among older Jews while the crystallized descriptions of life after death in Christianity may be comforting for its members. Prior work has shown that priming people with mortality increased belief in the supernatural (Norenzayan & Hansen, 2006). In light of the previous explanation which highlighted Jewish persecution (which may render mortality more salient for Jews than Christians), the lack of a definitive teaching on the afterlife may leave Jews without a system for understanding their people's suffering.

Gender and Psychological Distress

Hypothesis IV predicted that there would be gender differences in the number of depression and anxiety symptoms such that women display a higher number of depression and anxiety symptoms than men. This hypothesis was confirmed. Women reported more symptoms of depression and anxiety than men and were at greater risk for clinical depression and anxiety. The following discussion explores explanations for the association between gender and depression and anxiety relevant to older adults.

Women display higher rates of depression than men throughout adulthood (Piccinelli, & Wilkinson, 2000; Prince et al., 1999). Gove (1984) suggests that women display higher rates of depression because they occupy *nurturant* roles that strain their coping resources and make it

difficult for them to get care for themselves when needed. Adherence to traditional gender roles may be strict among older adults in this sample all of whom were born in the 1930s or earlier.

The *cost of caring* hypothesis suggests that caretaking often exacts a price (Kessler & McLeod, 1984). Women may neglect their own needs in favor of those of their husband, family, and friends. Their significant emotional involvement with family and friends may leave them few resources to devote to their own well-being.

Often women serve as the primary caretaker and have many concomitant responsibilities including childcare, housework and meal preparation, and the maintenance of social relationships for the family. Unlike professional responsibilities which may be left behind in the evenings and on weekends, maternal responsibilities are a perpetual concern. Because caretaking responsibilities never end, women may become especially vigilant regarding incomplete housework, the well-being of children or grandchildren, and keeping up with social obligations. The collective burden of this perpetual toil and vigilance may make it difficult for women to relax or attend to their own needs and lead to heightened anxiety regarding incomplete tasks.

In addition to the stress of caretaking duties, women may have fewer employment opportunities and tend make lower salaries than men (Ash, Carr, Goldstein, Friedman, & 2004; Suter, 1973). Poor career prospects may lead to psychological distress and limited financial resources may make it difficult for women to receive mental health treatment. Prior research has consistently indicated an association between lower levels of income and higher levels of mental illness (Belle, 1990).

Religiousness and Psychological Distress

Hypothesis V suggested that organizational and intrinsic religiosity would be inversely related to number of depression and anxiety symptoms. Contrary to our hypothesis, higher levels

of organizational religiosity were associated with a higher number of depression (non-adjusted test only) and anxiety symptoms (adjusted test).

There are a number of possible explanations for the unexpected positive association between organizational religiosity and number of anxiety symptoms. It should be noted that this association may not be causal. For instance, it is possible that older adults higher in anxiety may turn to religion as a coping resource (Koenig & Larson, 1991). Participants in this sample may have turned to religion after the death of their spouse or other significant losses. The death of a spouse, especially in late life, may not only lead to symptoms of anxiety but also to existential questions best addressed by religion. Koenig and Larson (2001) reviewed 76 studies that examined the relationship between religiousness and anxiety. Ten of these studies reported a positive association between religiousness and anxiety. Yet, the authors note that while anxiety often motivates increased religious activity, such activity tends to be associated with lower anxiety over time.

Another explanation is the potential use of negative religious coping strategies among participants in this sample (Pargament, 1997). Negative religious coping often denotes an adversarial relationship with God. For instance, when people feel that God is punishing them for their sins, mental health outcomes tend to be poor. On the other hand, maintaining a personal relationship with God and perceiving Him as a partner during times of difficulty is associated with better mental health outcomes. Older adults, especially Christians, may be more likely to engage in negative religious coping than younger adults. So-called *hellfire and brimstone* sermons were common in the first half of the 20th century in Christian services. Preachers routinely evoked the wrath of God and the threat of eternal damnation during their sermons to encourage virtuous behavior and adherence to religious commandments. While such preaching

styles remain common among some Christian groups (e.g., Pentecostals), hellfire and brimstone preaching is largely considered the product of a bygone era. This shift may have been facilitated by the Second Vatican Council's (1962-1965) *Sacrosanctum Concilium* which liberalized the Catholic liturgy, granting churches permission to say mass in the vernacular language and encouraging participation from laity and the integration of local customs (Whitehead, 2009). Nevertheless, older adults in this sample may have heard such preachers as children or young adults which perpetuated the attribution of mental and physical ailments to Divine punishment. While Jewish clergy did not employ fire and brimstone preaching methods, Jews ascribe to the Torah (i.e., Old Testament in Christian tradition) which exhibits a more vengeful God than the Christian New Testament. In fact, Cohen, Malka, Rozin, and Chefras (2006) found that Jews were more likely than Protestants to believe that God would not forgive certain behaviors.

Still another explanation for the positive relationship between organizational religiosity and anxiety symptoms may be the heightened standards to which religious people hold themselves. Schafer (1997) notes that along with increased religious importance may come concern regarding the fulfillment of divine expectations. Heightened religious standards may result in a failure to live up to religious rules and obligations for some. As people become more involved in churches and synagogues, they may become more aware of personal obligations to God and adherence to religious doctrine as well their personal shortfalls in living up to these standards. The notion of *Catholic guilt*, which suggests that Catholics tend to feel an excess of personal responsibility, may in part explain why religious people display more symptoms of anxiety. Likewise, for Jews, increased religious affiliation may also bring increased ethnic identification. More religious Jews may be more aware of the sacrifices of the Jewish people throughout history which may increase their sense of duty toward their people and greater self-

enforced demands for religious adherence. On the other hand, those who are less institutionally involved may be less burdened by religious rules and commitments resulting in better mental health.

There was also an association between intrinsic religiosity and clinical anxiety that trended toward significance; however, this association disappeared after post-hoc correction. Nevertheless, a brief discussion of this trend may be warranted because there is evidence that intrinsic religiosity may show a stronger inverse association with mental illness than measures of religious behavior. In a meta-analysis of 34 studies, Hackney and Sanders (2003) found that personal devotion to God showed the strongest association with depression (inversely associated), life satisfaction, and self-actualization while institutional measures of religiousness showed the weakest. The authors suggest that membership and participation in religious institutions may not be enough to engender the belonging and meaning that religion can provide. Those *going through the motions* at religious services may never internalize and personalize religion in a way that can bolster mental health.

Religion, Religiousness, and Psychological Distress

Research Question I explored how the relationship between religiousness to depression and anxiety varied by religious affiliation. There is evidence that both Christians and Jews display an association between organizational religiosity and better mental health. On other hand, Christians display an association between religious belief and coping through turning to God and mental health while Jews do not (Cohen, 2002).

Organizational Religiosity and Depression. Contrary to our expectations, the relationship between organizational religiosity and number of depressive symptoms varied by religious affiliation. Christians displayed a higher association with depression than Jews at lower

levels of organizational religiosity and a lower association with depression than Jews at higher levels of organizational religiosity. In addition, the association between organizational religiosity and clinical depression varied by religious affiliation. For every one point increase in organizational religiosity, Jews' risk for clinical depression was thirty times that of Christians. The shape of the slopes in this interaction suggests that far fewer Christians at higher levels of organizational religiosity are depressed in contrast to Jews for whom slightly more are above the cutoff for clinical depression at higher levels of organizational religiosity.

This finding—organizational religiosity x religion in association with depression—is the strongest of the interactions explored in this dissertation. For one, this finding is consistent across linear and logistic analyses, suggesting that differences persist between Christians and Jews at both the symptom and clinical levels of depression. The pattern displayed in both linear and logistic analyses is the same with slopes becoming steeper in logistic analysis (especially for Christians). The consistency between these two analyses reinforces the integrity of each of them and provides evidence of a meaningful difference between Christians and Jews in the relationship between organizational religiosity and depression.

One of the most salient differences between Christianity and Judaism is the emphasis in Christianity on the cultivation of internal states compared to the focus within Judaism on behavior (Prager & Telushkin, 1981). Hence, one might expect that Christians' religious activity would play a more vital part in their mental health maintenance than Jews' religious activity plays in theirs. Cohen (2002) suggests that turning to God may be a positive coping strategy for Christians but mostly irrelevant for Jews. Instead, Jews may cope through ethnic identification which may, on the one hand, increase stress levels while providing substantial support on the other (Dubow, Pargament, Boxer, & Tarakeshwar, 2002).

An examination of the content, context, and architecture surrounding Christian and Jewish services reinforces this distinction. In Christianity, the goal of religious services is to reconnect with God through identification with Christ's sacrifice. By identifying with Christ's example and atonement with the Father (and renewal of this bond through Communion in the Catholic mass), so are Christians reconciled with God. Personal difficulties, sins, and hardships are brought before the Cross of Christ and offered up to God. Churches are constructed to enhance members' spiritual connection with the Divine. Vaulted ceilings reach upward, stained glass windows illuminate the space of worship, music enriches the service, and in Catholic churches, crucifixes, statues, and frescoes portray dramatic biblical scenes. These physical surroundings facilitate a meditative experience intended to restore the church membership. In fact, it is not uncommon at a Catholic mass, to see people with their heads buried in their hands crying. Psychologically, the identification with Christ's sacrifice removes sinfulness, guilt, and worry, once again placing Christians in accord with the Divine.

The cathartic experience that religion can provide may thus be more centered on the worship space for Christians than Jews. While synagogues contain artwork, they tend not to be as ornate as churches, largely for historical reasons. Because Jews were often forced to migrate from one place to another due to persecution, extensive investment in the synagogue structure was either impossible or impractical. Instead of adorning the physical structure of the synagogue, the structure of Judaism is created through religious laws which govern daily behavior and bind people together in sacred ways (Kushner, 1994).

Therefore along with increased religiousness for Jews may come increased ethnic identification. While providing benefits for Jews as such heightened personal meaning and purpose, ethnic identification may also lead to a greater appreciation for Jewish history and anti-

Semitism. An appreciation for Jewish existential crisis throughout history and a deep sense of collective loss may make religious Jews more vulnerable to developing depression (Wex, 2005).

Another explanation for Jews' higher depression at higher levels of religiosity may be their tendency to seek help from their religious community when in need of support. That is, the relationship between higher levels of organizational religiosity and higher levels of depression may indicate a help-seeking behavior on the part of Jews in significant distress.

Another point worthy of discussion is the higher levels of depression among Christians at lower levels of religiosity. Many of the differences noted above which may explain why more religious Christians display less depression than more religious Jews may in turn explain why less religious Christians display more depression than less religious Jews. Just as active Christian participation may engender emotional harmony, so too may its absence lead to mental health decline. After treating a number of lapsed Catholics in the early 20th century, Carl Jung noted that the most effective treatment for them was to simply get them to "go back to believing" (McLynn, 1997, p. 414). On the other hand, because Judaism is more community based and not intended to enhance internal states (Prager & Telushkin, 1981), the absence of religious practice among Jews may be less detrimental to mental health.

Organizational Religiosity and Anxiety. The association between organizational religiosity and number of anxiety symptoms did not vary by religious affiliation. There was a trend in the direction of fewer Christians displaying lower risk of clinical anxiety than Jews at higher levels organizational religiosity ($p = .091$); however, there was no interaction between organizational religiosity and religious affiliation in association with clinical anxiety after post-hoc correction.

Intrinsic Religiosity and Depression. The relationship between intrinsic religiosity and

depression symptoms or risk for clinical depression did not vary by religious affiliation. These null results are noteworthy given that Christians and Jews differed sharply in their level of intrinsic religiosity ($p < .001$). The mean score for Christians on the Intrinsic Religiosity Scale was 2.39 while for Jews it was 1.96. However, it has been noted that higher levels of religiousness among one group do not equate to significant associations with mental health measures in that group compared to another (Ellison et al., 2009). For instance, consider that a preponderance of research has shown that higher levels of religiousness are associated with better mental health. Furthermore, research also shows that women tend to be more religious than men. However, despite these established relationships, more religious women do not display better mental health than more religious men.

Intrinsic Religiosity and Anxiety. The association between intrinsic religiosity and anxiety symptoms varied by religious affiliation prior to post-hoc adjustment. Higher levels of intrinsic religiosity were associated with a higher number of anxiety symptoms among Jews than Christians. However, after Dunn post-hoc correction there was no interaction between intrinsic religiosity and religious affiliation in association with anxiety symptoms.

General Discussion. The following discussion places the religiousness x religious affiliation interactions in this study within the context of prior research, and highlights sampling, methodological, and measurement differences. Because only one known study has explored how different dimensions of religiousness are related to mental health among Christians as opposed to Jews, this discussion will focus primarily on the work of Cohen (2002).

In both of the religion x organizational religiosity interactions in association with depression, Christians displayed a steeper slope than Jews. This suggests that religious attendance is more salient for Christians than for Jews in its association with depression. An

examination of the correlations in Cohen's (2002) first study reveals a similar pattern as displayed in this paper. Catholics and Protestants displayed positive associations between public religious practice and happiness, while Jews displayed no association. Unfortunately, the low number of Jews in Cohen's first study precluded further analyses of Christian–Jewish differences.

The current study found that the association between organizational religiosity and depression varied between Christians and Jews. This finding contrasts with Cohen's (2002) second study which suggested that because organized religious activity is important in both the Christian and Jewish faiths (Morris, 1996), such activity should be associated with mental health for both groups.

Differences between Cohen's work and this study include the sample characteristics and method of data collection. In Cohen's first study, the sample consisted of adults with a mean age of 47.9 compared to the current sample of older adults with a mean age of 76.82. The sample used in Cohen's second study contrasts even more sharply with the sample studied here, consisting of 309 participants with a mean age of 33.33. Furthermore, his sample was gathered using Internet recruiting methods and a number of students at the University of Pennsylvania and the University of Michigan participated in Cohen's study. While specific data are not provided, Cohen's sample likely included a group of highly intelligent young adults of high socioeconomic status.

The age difference between these samples raises questions regarding how younger and older adults engage their religion and how that engagement is associated with the mental health. Research has indicated increased religiousness as people age (Koenig, Smiley, & Gonzalez, 1988; Levin, Taylor, & Chatters, 1995). Older Jews may have a deeper sense of Jewish history and persecution than younger Jews. Therefore, as they become more religious so may they also

become more aware of the perils of practicing Judaism throughout history. On the other hand, younger generations of American Jews have not faced the same degree of anti-Semitism as older generations. A 2009 Anti-defamation League survey revealed that 12% of the American population held anti-Semitic views compared to 29% in 1964 (Anti-Defamation League Survey, 2009). Similarly, older Christians may have a better appreciation for their religion than younger members. They may have spent a lifetime attending the same church building supportive relationships with clergy and other members. Greater religious appreciation may allow older Christians to use their religion to cope in a way that younger Christians have not yet realized.

Another methodological difference between these studies is the type of statistical analyses. Cohen's second study revealed that public religious practice was about equally related to higher life satisfaction for both Christians and Jews. While the power of these associations is not provided, an examination of the *F* values for Catholics compared to Jews for the association between public religious practice (frequency of religious service and activity attendance) and life satisfaction (The Satisfaction with Life Scale) reveals comparable effects. However, Cohen's analyses included separate multiple regressions for Catholics, Protestants, and Jews and therefore no religion x religiousness interaction effects were calculated.

Finally, measurement differences may account for the inconsistency between the results of Cohen's study and the current inquiry. For instance, in the study by Cohen (2002), organizational religiosity is assessed using a two-item measure capturing frequency of service attendance and activity participation. The Organizational Religiosity Scale employed here not only asks about frequency of attendance and activity but also formal religious affiliation and the frequency with which positions have been held at places of worship.

Perhaps even more pertinent are differences in the mental health measures. Cohen (2002) assesses life satisfaction using two measures: the Satisfaction with Life Scale (Pavot & Diener, 1993) and the Delighted Terrible Scale (Andrews & Robinson, 1991). Life satisfaction has been found to correlate negatively with measures of psychological distress and depression (Firsch, Cornell, Villanueva, & Retzlaff, 1992). Nevertheless, while it may be unlikely that an individual would be both satisfied with his or her life and depressed, he or she may well be both satisfied with his or her life and anxious (Headey, Kelley, & Wearing, 1993).

Gender, Religiousness, and Psychological Distress

Research Question II explored the degree to which the relationship between religiousness and psychological distress varies by gender. Research has tended to show that women display a stronger association between religiousness and better mental health than do men (Ellison, Finch, Ryan, & Salinas, 2009; Hintikka, Koskela, Kontula, & Viinamäki, 2000; Mirola, 1999; Norton, Skoog, Franklin, Corcoran, Tschanz, Zandi, et al., 2006; Strawbridge, Shema, Cohen, & Kaplan, 2001). However, McFarland (2009) found that religiousness is associated with depression (inversely) and better well-being among older men but not older women.

Organizational Religiosity and Depression. The relationship between organizational religiosity and number of depression symptoms did not vary by gender. Consistent with prior research (McFarland, 2009) there was a trend toward significance showing that the relationship between organizational religiosity and risk for clinical depression varied by gender. However, the interaction between organizational religiosity and gender in association with clinical depression no longer approached significance after post-hoc adjustment.

Organizational Religiosity and Anxiety. The relationship between organizational religiosity and the number of symptoms of anxiety was found to vary by gender. At lower levels

of organizational religiosity, women displayed a higher number of anxiety symptoms than did men. Gender did not differ in its association with number of anxiety symptoms at higher levels of organizational religiosity. In supplemental analyses, the association between organizational religiosity and risk for clinical anxiety did not vary by gender.

Most of the work examining gender differences in the association between organizational religiosity and mental health has employed depression as the outcome variable. Those studies that have included anxiety items often lump them in with other dimensions of mental health. For instance, Hintikka (2000) found that there was a stronger association between attendance at religious services and better mental health for women than for men. However, the measurement scale used (the GHQ-12) consists of items assessing anxiety, depression, and esteem. Therefore, there is a relative paucity of research on gender, organizational religiosity, and anxiety.

The shape of this interaction reveals that it is at lower levels of organizational religiosity that women experience more anxiety than men. The slopes for men and women in this interaction indicate that men display comparable levels of anxiety at low and high levels of organizational religiosity. On the other hand, women display a steep decline in anxiety symptoms when moving from low to high levels of religiosity. Mirola (1999) suggests that because women tend to display more depression and anxiety than men (i.e., they come from a more extreme position), that they have more to gain from religious involvement.

Why might women display more anxiety symptoms at lower levels of organizational religiosity than men? One explanation may be women's higher concern with existential questions such as death and the afterlife. Indeed, research has shown that women report higher levels of death anxiety than men (Dattel & Neimeyer, 1990; Harding, Flannelly, Weaver, & Costa, 2005; Rasmussen & Johnson, 1994). As noted earlier, death anxiety has been associated with anxiety

symptoms among patients with serious illness (Adelbratt & Strang, 2000; Conte, Weiner, & Plutchik, 1982; Safren, Gershuny, & Hendriksen, 2003). Furthermore, previous research has indicated that religious involvement is related to lower death anxiety (Mathew, Larson, & Barry, 1993). Women who are less religiously active may lack a framework for understanding existential concerns in late life which leads to increased anxiety. On the other hand, because men are less anxious about death to begin with, religion may be less important in maintaining mental health in late life.

This finding is consistent with the framework presented earlier in this paper which suggests that women are able to derive more benefit from religiousness than men are (Ellison, Finch, Ryan, & Salinas, 2009; Mirola, 1999; Norton et al., 2006). One often noted mechanism for this relationship is women's ability to build relationships with other members of their church or synagogue. On the other hand, men may view religious activity as a part of their weekly routine or be drawn to religious services for the solitude that they offer. Miller and Hoffman (1995) note that while men may participate in religious activity, they are less likely than women to use religion as a coping strategy. However, it should be noted that this interaction remained significant in the presence of control variables including social support.

Another possibility is that women may feel validated by messages of love (more so in Christianity) and compassion (more so in Judaism) espoused by religious scripture and teaching. Religious services serve as the point of interaction with scripture for most religious Christians and Jews. Therefore, service attendance may reinforce the nurturing qualities often associated with women for which they may feel underappreciated in their day-to-day lives. Such affirmation may help them to see meaning in daily caretaking or other tasks.

Intrinsic Religiosity and Depression. As in the previous analysis of religiousness x religion interactions, the association between intrinsic religiosity and symptoms of depression did not vary by gender. Similarly, the relationship between intrinsic religiosity and risk for clinical depression did not vary by gender. Women displayed higher levels intrinsic religiosity than men. Men's mean score on the Intrinsic Religiosity Scale was 2.03 while women's was 2.27 ($p < .001$). However, higher scores on measures of religiousness do not mean that there are stronger associations with mental health measures for women than for men (Krause, Ellison, & Marcum, 2002).

Intrinsic Religiosity and Anxiety. The association between intrinsic religiosity and number of anxiety symptoms did not vary by gender. The association between intrinsic religiosity and risk for clinical anxiety did vary by gender; however, this interaction was no longer significant after post-hoc correction.

One explanation for the lack of findings for the interaction of intrinsic religiosity by gender in association with depression and anxiety may be that men and women extract about equal benefit from intrinsic religiosity. Unlike organizational religiosity which involves service attendance and participation in religious activities—social activities where women may excel— intrinsic religiosity reflects the inward experience of religion. Because men may be less social than women (Eagly & Crowley, 1986; Gilligan, 1982) they may not take advantage of the activities and relationships provided by religious activity. On the other hand, men may be just as adept as women at taking advantage of the more private and personal expressions of religion. Interestingly, Idler (1987) found that men derived more benefit from private religiousness than women and suggests that this reflects men's preference for inward reflection for coping as opposed to women's tendency to seek help from others.

General Discussion. Contrary to expectations, women displayed a steep decline in anxiety symptoms when moving from lower to higher levels of organizational religiosity. It should be noted though, that despite this decline, religious women still reported comparable levels of anxiety as religious men. Idler (1987) found that older women displayed a stronger association between public religiousness and lower depression than older men did (though both displayed significant associations). As already noted, this may reflect older women's preference for seeking support from others in times of need.

Why might older women in particular draw more benefit from religious attendance and participation? One possibility is that in late life women may have more time and maintain better health than their male counterparts. As men retire, they may take over household duties which leave women more time to participate in religious groups and services. Furthermore, in late life, women may be less burdened by family obligations such as childcare, leaving them with more time to invest in themselves. Women's self-rating of their physical health tends to decline less steeply than men's in older adulthood (McCullough & Laurenceau, 2004) which may allow them to be more active in religious services than men. For instance, women may be more likely to serve as Eucharistic ministers at Catholic masses which requires one to stand on one's feet for a significant period of time and ascend and descend the alter several times.

In addition to the interaction of organizational religiosity and gender in association with anxiety symptoms, there were other interactions that trended toward significance (e.g., there was a trend for the interaction between organizational religiosity and gender in association with clinical depression). Consistent with prior work (McFarland, 2009), these trends suggest the opposite interpretation: that men display a stronger association between higher religiousness and improved mental health than do women. It is possible that future work might clarify the complex

relationship among religiousness, gender, and mental health in late life. It also possible that the lack of a definitive pattern of results in prior studies and this dissertation may indicate that there is no reliable relationship in the interaction of religiousness and gender in association with mental health.

Limitations of the Study

The most salient limitation of this study is the sample size compared to other studies on the same topic and the unique characteristics of study participants. This study included 143 participants. Many of the prior studies cited in this paper were composed of large epidemiological samples. However, one advantage of this study is its measures of religiosity which were well-validated multi-item scales as opposed to ad hoc single or double item instruments.

This dissertation used a secondary data analysis. The data analyzed in this dissertation were gathered in 1998 from older adults residing in the New York area. Therefore, the results of this study cannot be generalized to older adults from other geographic areas. Furthermore, while the original sample included a large number of Black participants, the current study was limited to Caucasians. Thus, the results of this study cannot be generalized to minority populations.

While this sample consisted of community dwelling older adults, participants were known to have recently experienced an important loss or other life transition. Because participants were identified by need, rates of clinical depression and anxiety in this sample (55% and 45%, respectively) are significantly higher than those typically observed in samples of community dwelling older adults. For instance, depression rates among older adults range from approximately 8-10% (Gurland, Cross, & Katz, 1996) and anxiety rates range from approximately 5-20% (Himmelfarb & Murrell, 1984; Reiger, Boyd, Burke, Rae, Myers, Kramer,

et al., 1988). It is possible that participants' recent loss may have influenced their reporting not only of current levels of depression and anxiety but also religious variables.

Nevertheless, participants in this sample had not received psychotherapy in the last five years and had no history of psychiatric disturbances. Bonnano (2004) notes that while most people experience some disturbance in mood and functioning after a loss or other trauma, humans tend to be highly resilient. Previous research using this sample has noted that, despite being distressed, participants in this sample were all connected to others well enough that someone noticed their distress and referred them to this study. Therefore, participants in this study were functioning well enough that they remained involved in their communities (Grice, 1999). However, this same inclusion criteria (i.e., not having received psychotherapy or counseling within the last five years) may have had an unintended consequence: a sample of people who have avoided therapy. Caution should thus be used in generalizing these findings to other groups.

Due to the cross-sectional design of this study, causality between variables cannot be determined. The study findings only indicate relationships between variables. As a result, the findings of this study should be viewed with caution and alternative explanations considered. For instance, we discovered a relationship between higher levels of organizational religiosity and number of anxiety symptoms. It is possible that higher organizational religiosity may lead people to feel more guilt which in turn may result in higher anxiety. On the other hand, it is equally possible that people higher in anxiety may have become more religiously active during times of difficulty.

Religiosity variables were only moderately related to depression or anxiety. This is not unexpected since the religiosity and interaction terms were entered in the last step of the model

and therefore forced to compete with demographic and resource variables for variance in the depression and anxiety measures. Additionally, demographics and resources tend to account for more variance in psychological distress than religiousness. Effect sizes for the association between religiosity and mental health tend to be small to moderate (Cohen & Koenig, 2003). Therefore, relative to demographic and resource predictors, the importance of religiousness for mental health is limited.

This study relied exclusively on self-report measures. It is therefore possible that differences observed between Christians and Jews, and men and women may have actually indicated higher or lower levels of self-disclosure. This concern is especially salient for the dependent variables in this study: depression and anxiety. Additionally, degree of self-disclosure may have influenced reporting on resource variables included as controls such as perceived health and personal efficacy. There is evidence that women may be more willing to disclose details of physical illness and disease than men (Koray, Hibbard & Pope, 1983; Neighbors & Howard, 1987; Tanfer, Cubbins, & Billy, 1995).

Furthermore, both Jews and women have been found to be more open to psychotherapy (Farber & Geller, 1977) and display a higher tolerance for the stigma associated with mental health (McGowan & Midlarsky, in press). While the interviews conducted during this study were not intended to be psychotherapeutic, it is likely that participants viewed the interviewer as a member of the mental health profession. Therefore, these same religion and gender patterns of disclosure may have still affected response patterns.

Christian and Jewish subgroups were not differentiated in study analyses. This is problematic given that Christians and Jews vary widely in their practices and beliefs. For instance, Catholic churches and services are very different from their Protestant counterparts.

Catholicism consists of an extensive iconography and churches are typically filled with statues, paintings, and frescos. Protestant churches tend to be austere. Additionally, Catholic tradition affirms belief in the transubstantiation (transformation of bread and wine into the body and blood of Jesus), saints, and Pope while Protestantism focuses on scripture and a personal relationship with God. Such differences may well influence how religious participation relates to mental health. There is also significant variation among Jewish groups. For instance, Orthodox Jews believe in a literal interpretation of the Torah, the coming of the Jewish messiah, and life after death. In contrast, Reform and Conservative Jews use the Torah as an ethical and spiritual guide but do not believe in its literal fulfillment. While observations during this study suggest that the sample did not include a large number of Orthodox Jews, even a small number may have introduced significant variation into measures of religiousness among Jewish participants in this study.

Catholics and Orthodox Jews have more in common in many ways than Catholics have with Protestants or Orthodox Jews have with Non-Orthodox Jews. Both require a belief in God and ascribe to more conservative positions on issues such as abortion, homosexuality, and euthanasia. Future work might explore how the relationship between religiousness and mental health varies between Orthodox religious groups (i.e., Catholics and Orthodox Jews) and their progressive counterparts (i.e., Protestants and Reform/Conservative Jews).

Finally, there may be unaccounted for variables which were not controlled for. For instance, many of the Jews in this sample were not born in United States and some may have come as refugees in the 1930s and 1940s. Therefore, the Jewish group in this study likely included more non-native speaking and foreign-born participants than the Christian group.

Implications of the Study

Prior work has shown that higher religiousness is associated with better mental health but this research has used primarily Christian samples. The results of this study provide evidence that the association between religiousness and mental health may vary by religion. Future work might focus exclusively on Jewish samples to determine how religiousness is associated with mental health. Possible mediators for that relationship which might also explain its attenuation compared to Christian samples include (1) degree to which worship facilitates emotional renewal and (2) degree of ethnic identification among religious Jews.

Given the number of studies which have explored the relationship between religiousness and mental health, it is surprising that only one (Cohen, 2002) examined how this relationship varies based upon participants' religion. Koenig et al. (2001) noted that different religious beliefs and practices may not display the same relationship with mental health, and called for research exploring how beliefs and practices may be differentially associated with mental health for Christians, Jews, Muslims, and other religious groups. Cohen's (2002) paper provided empirical evidence that spirituality, religious coping, and belief were more strongly related to happiness and life satisfaction for Christians than for Jews. On the other hand, both groups displayed an association between religious practice and life satisfaction. This dissertation is the first known study of how the relationship between religiousness and psychopathology varies by religious affiliation. Future studies of mental health outcomes including both Christians and Jews, or members of other traditions such as Islam, should include religious affiliation as a control variable.

As noted in the limitations, this study does not differentiate between Christian and Jewish subgroups. Indeed, in Judaism there are significant differences in religious belief and behavior

among Reform, Conservative, and Orthodox Jews. For Christians, not only are there salient differences between Catholics and Protestants, but also differences within these groups. Another fruitful line of inquiry may be the study of insular Christian and Jewish groups which would likely demonstrate more homogeneity on measures of religious belief and practice and allow for a more definitive assessment of how religiousness relates to mental health.

This dissertation may have implications for the development of alternative measures of religiousness. The Intrinsic Religiosity Scale used herein was developed using a sample of Protestant, mostly Presbyterian, adults. As noted earlier, some items on the scale can be interpreted in different ways. For some groups, the notion of living their religion may indicate adherence to religious law (Orthodox Jews), while for others it may indicate a personal relationship with God (Protestant Christians). This distinction becomes especially salient when studying groups that express religion differently in day-to-day practice.

This is the third known study to explore gender differences in the association between religiousness and mental health in late life. Findings herein revealed that older women show a steep decline in anxiety as they become more religious while older men do not. However, there were also trends suggesting men display a stronger association between religiousness and better mental health as also indicated by McFarland (2009). Future work may be useful in clarifying the relationships among gender, religiousness, and mental health. However, evidence so far does not suggest a reliable relationship among them among older adults.

This dissertation may also have implications for clinicians working with religious patients, especially older adults. Given that this study found a stronger association between higher levels of religiousness and lower depression for Christians, Christian patients might be encouraged when appropriate to take up religious activity for therapeutic benefit. For instance,

behavioral activation (Carver & White, 1994) is an empirically supported cognitive behavioral therapy technique that encourages depressed patients to spend more time doing what they enjoy. Increasing religious activity may pay significant dividends for Christians suffering from depression in late life.

Conclusion

This study found that Christians displayed higher levels of intrinsic religiosity than Jews but not organizational religiosity. There was also limited evidence that women display higher levels of intrinsic religiosity than men. People higher in organizational religiosity reported a higher number of anxiety symptoms. This was unexpected given the vast number of studies showing that more religious people have better mental health than their less religious counterparts. Consistent with predictions, Jews displayed a higher risk for clinical anxiety than Christians, and women displayed higher levels of depression and anxiety than men. Religious affiliation and gender differences emerged in the relationship between religiousness and mental health. Christians displayed a stronger inverse association between organizational religiosity and depression. Less religious women displayed higher levels of anxiety than less religious men, but men and women did not differ in anxiety when higher in religiousness.

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APPENDICES

Appendix A

Demographic Questionnaire

1. Sex of respondent: (1) Male (2) Female (Rated by interviewer)
2. Race: (1) White (2) Black (3) Hispanic (4) Asian (5) Other (Rated by interviewer)
3. Age: What is your current age? ____
4. What is your current religious preference? (1) Protestant (2) Catholic (3) Jewish (4) None (5) Other (6) Missing
5. Are you: (1) Married (2) Widowed (3) Divorced (4) Separated (5) Never married (9) Missing
6. At this time with whom are you living? (1) Alone (2) With spouse (3) With child or children (4) With other family member (5) With a non-relative (6) Other or combination (9) Missing
7. How many years of formal schooling did you complete?
8. What then is the last grade or level that you completed? (7) Graduate, professional training (6) Standard college training (4) High school graduation or equivalent (3) Partial high school (2) Junior high school (1) Less than seven years of school
9. What kind of work have you done (or did you do) most of your life? (1) Top exec: proprietors of major business, major professional, (2) Manager, proprietor of medium sized business, lesser professional (3) Administrative personnel, small business owner, semi-professional, (4) Sales and clerical worker, technician (5) Skilled workers (6) semi-skilled workers (7) Unskilled workers, (8) Homemaker (9) Other (10) Never employed
10. (If ever married) What kind of work has your husband or wife done during most of his/her life? (1) Homemaker (2) Unskilled workers (3) Semi-skilled worker (4) Skilled workers (5) Sales and clerical worker, technician (6) Administrative personnel, small business owner, semi-

professional (7) Manager, proprietor of medium sized business, lesser professional, (8) Top executive, (9) Proprietors of major business, major professional (9) Other (10) Never employed

11. Are you fully employed at present, employed part-time, semi-retired, or fully retired? (4)

Fully employed (3) Employed part-time (2) Semi-retired (1) Retired

12. At the present time, how adequate is your income in meeting your daily needs? (4) It is more than adequate, (3) It is just enough (2) It is not quite enough (1) It is not at all adequate

13. How much income do you (and your husband /wife—if applicable) have a year?

	<u>Yearly</u>	<u>Monthly</u>
(1)	Under \$3,000	\$0 - \$166
(2)	\$3,000 - \$6,999	\$250 - \$583
(3)	\$7,000 – \$9,999	\$584 - \$833
(4)	\$10,000 – \$19,999	\$834 – \$1,666
(5)	\$20,000 – \$39,999	\$1,667 – \$3,333
(6)	\$40,000 or more	\$3,334 or more
(7)	Don't know	
(8)	Refused	

Appendix B

Organizational Religiosity Scale (Chatters, Levin, & Taylor, 1992)

1. Are you formally affiliated with a church, synagogue, or other place of worship?

2. Yes 1. No

2. How often do you usually attend religious services?

Nearly Every Day	At Least Once A Week	A Few Times A Month	A Few Times A Year	Less Than Once A Year	Never
6	5	4	3	2	1

3a. How much have you participated in religious clubs or organizations?

Nearly Every Day	At Least Once A Week	A Few Times A Month	A Few Times A Year	Never
5	4	3	2	1

3b. How many clubs or organizations? _____

4. Besides regular services, how often do you take part in other activities at your place of worship?

Nearly Every Day	At Least Once A Week	A Few Times A Month	A Few Times A Year	Never
5	4	3	2	1

5a. How much have you held positions of offices in your church, synagogue, or other place of worship?

Very Often	Somewhat Often	Not Very Often	Rarely	Never
5	4	3	2	1

5b. How many right now? _____

Appendix C

Intrinsic Religiosity Scale (Hoge, 1972)

Now, please tell me whether you “strongly agree,” somewhat agree,” “somewhat disagree,” or “strongly disagree” with the following statement.

1 = Strongly disagree, 2 = Somewhat disagree, 3 = Somewhat agree, 4 = Strongly agree

1. My Faith involves all of my life
2. One should seek God’s guidance when making every important decision
3. In my life I experience the presence of the Divine
4. My faith sometimes restricts my actions
5. Nothing is more important to me as serving God as best I know how
6. I try hard to carry my religion over into all of my other dealings in life
7. My religious beliefs are what really lie behind my whole approach to life
- *8. It doesn’t matter so much what I believe as long as I live a moral life
- *9. Although I am a religious person, I refuse to let religious considerations influence my everyday affairs
10. Although I believe in my religion, I feel there are many more important things in life

*Item is reverse coded

Appendix D

Brief Symptom Inventory (Derogatis, 1975)

Below is a list of problems people sometimes have. Please tell me which answer choice best describes how much the problem has distressed or bothered you during the past 6 months including today. The answer choices are “Not at all,” “A little bit,” “Moderately,” “Quite a bit,” or “Extremely.” I have made up some cards to help you respond to my questions.

0 = Not at all, 1 = A little bit, 2 = Moderately, 3 = Quite a bit, 4 = Extremely

1. Nervousness or shakiness inside
2. Faintness or dizziness
3. The idea that someone else can control your thoughts
4. Feeling others are to blame for most of your troubles
5. Trouble remembering things
6. Feeling easily annoyed or irritated
7. Pains in the heart or chest
8. Feeling afraid in open spaces
9. Thoughts of ending your life
10. Feeling that most people cannot be trusted
11. Poor appetite
12. Suddenly scared for no reason
13. Temper outbursts that you could not control
14. Feeling lonely even when you are with people

15. Feeling blocked in getting things done
16. Feeling lonely
17. Feeling blue
18. Feeling no interest in things
19. Feeling fearful
20. Your feelings being easily hurt
21. Feeling that people are unfriendly or dislike you
22. Feeling inferior to others
23. Nausea or upset stomach
24. Feeling that you are watched or talked about by others
25. Trouble falling asleep
26. Having to check and double check what you do
27. Difficulty making decisions
28. Feeling afraid to travel on buses, subways, or trains
29. Trouble getting your breath
30. Hot or cold spells
31. Having to avoid certain things, places, or activities because they frighten you
32. Your mind going blank
33. Numbness or tingling in parts of your body
34. The idea that you should be punished for your sins
35. Feeling hopeless about the future
36. Trouble concentrating
37. Feeling weak in parts of your body

- 38. Feeling tense or keyed up
- 39. Thoughts of death or dying
- 40. Having urges to beat, injure, or harm someone
- 41. Having urges to break or smash things
- 42. Feeling very self-conscious with others
- 43. Feeling uneasy in crowds
- 44. Never feeling close to another person
- 45. Spells of terror or panic
- 46. Getting into frequent arguments
- 47. Feeling nervous when you are left alone
- 48. Others not giving you proper credit for your achievements
- 49. Feeling so restless you couldn't sit still
- 50. Feelings of worthlessness
- 51. Feeling that people will take advantage of you if you let them
- 52. Feeling of guilt
- 53. The idea that something is wrong with your mind

Anxiety: 1, 12, 19, 38, 45, 49

Depression: 9, 16, 17, 18, 35, 50

Paranoid Ideation: 4, 10, 24, 48, 51

Phobic Anxiety: 8, 28, 31, 43, 47

Obsessive-compulsive: 5, 15, 26, 27, 32, 36

Somatization: 2, 7, 23, 29, 30, 33, 37

Psychoticism: 3, 14, 34, 44, 53

Interpersonal Sensitivity: 20, 21, 22, 42

Hostility: 6, 13, 40, 41, 46

Additional 4 items: 11, 25, 39, 52

Appendix E

Perceived Health (Index from items commonly used in health-related research; Hooker, Monahan, Shifren, & Hutchenson, 1992)

1. In general, how is your health now?

Excellent	Good	Fair	Poor	Very Poor
5	4	3	2	1

2. Do your health problems interfere with your doing the things you need to?

Very Much	Much	Somewhat	Little	Very Little
5	4	3	2	1

3. Do you think that you are in better or worse health, or the same, compared to most people your age?

Much Better	Better	Same	Worse	Much Worse
5	4	3	2	1

4. During the past three months, how much has your health worried you?

Very Much	Much	Somewhat	Little	Very Little
5	4	3	2	1

Appendix F

Social Support Questionnaire – Short Form (SSQSR)

Sarason, Sarason, Shearin, & Pierce (1987)

The following questions ask about people in your environment who provide you with help and support. Each question has two parts. For the first part, I'll be asking you to list all the people you know, up to 9 people and excluding yourself, whom you can count on for help or support in the manner described. (INTERVIEWER: *For each person, list initials and relationship to respondent*). Part 1 response format:

- | | | |
|----|----|----|
| 1. | 4. | 7. |
| 2. | 5. | 8. |
| 3. | 6. | 9. |

For the second part of the question, I want you to tell me how satisfied you are with the overall support you have. Even if you have no support for a particular item, I still want you to tell me about your level of satisfaction. Part 2 response format: 1 = Very Dissatisfied, 2 = Fairly Dissatisfied, 3 = A Little Dissatisfied, 4 = A Little Satisfied, 5 = Fairly Satisfied, 6 = Very Satisfied

1. Whom can you really count on to be dependable when you need help?

1a. How satisfied are you with that level of support?

2. Whom can you really count on to help you feel more relaxed when you are under pressure or tense?

2a. How satisfied are you with that level of support?

3. Who accepts you totally, including both your worst and best points?

3a. How satisfied are you with that level of support?

4. Whom can you really count on to care about you, regardless of what is happening to you?

4a. How satisfied are you with that level of support?

5. Whom can you really count on to help you feel better when you are feeling generally down-in-the-dumps?

5a. How satisfied are you with that level of support?

6. Whom can you count on to console you when you are very upset?

6a. How satisfied are you with that level of support?

Appendix G

Belief in Personal Mastery (Pearlin & Schooler, 1978)

1 = Strongly Agree, 2 = Somewhat Agree, 3 = Somewhat Disagree, 4 = Strongly Disagree

1. There is really no way I can solve some of the problems I have
2. Sometimes I feel that I am being pushed around in life
3. I have little control over the things that happen to me
- *4. I can do just about anything I really set my mind to
5. I often feel helpless in dealing with the problems in my life
- *6. What happens to me in the future mostly depends on me
7. There is little I can do to change many of the important things in my life

*Item is reverse coded

Appendix H

ACKNOWLEDGEMENT AND CONSENT

I agree to participate in the study being conducted by the Center for Lifespan and Aging Studies at Columbia University. I understand that this involves answering questions about my attitudes and opinions. I also understand that all of my responses will be kept strictly confidential, and that I may withdraw from the study at any time.

Signature _____

Printed Name _____

Date _____

I am interested in receiving the results of this study. _____ Yes _____ No

Appendix I

Perceived Financial Adequacy

(Liang, Dvorkin, Kahana, & Maizan, 1980)

At the present time, how adequate is your income in meeting your daily needs?

- | | |
|-----------------------------|------------------------------|
| 4. It is more than adequate | 2. It is not quite enough |
| 3. It is just enough | 1. It is not at all adequate |